



# STIC Search Report

EIC 1700

STIC Database Tracking Number: 130568

**TO:** Vickey Ronesi  
**Location:** REM 10D24  
**Art Unit :** 1714  
**September 1, 2004**

**Case Serial Number:**  
**PCT/US04/01480**

**From:** Kathleen Fuller  
**Location:** EIC 1700  
**REMSEN 4B28**  
**Phone:** 571/272-2505  
**Kathleen.Fuller@uspto.gov**

Search Notes



# STIC Search Results Feedback Form

EIC1700

Questions about the scope or the results of the search? Contact *the EIC searcher or contact:*

Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

## Voluntary Results Feedback Form

- I am an examiner in Workgroup:  Example: 1713
- Relevant prior art **found**, search results used as follows:
- 102 rejection  
 103 rejection  
 Cited as being of interest.  
 Helped examiner better understand the invention.  
 Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- Foreign Patent(s)  
 Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- Results verified the lack of relevant prior art (helped determine patentability).  
 Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28



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130568

**Request a Search**SCIENTIFIC REFERENCE BR  
Sci. & Tech. Info. Cntr

AUG 24

Search requests relating to **published applications, patent families, and litigation** may be submitted by filling out this form and clicking on "Send" Pat. & T.M. Office

For all other search requests, fill out the form, print, and submit the printout with any attachments to the STIC facility serving your Technology Center.

**Tech Center:**

TC 1600     TC 1700     TC 2100     TC 2600     TC 2800  
 TC2900     TC 3600     TC 3700     Law Lib     Other

**Enter your Contact Information below:**Name: Employee Number: Phone: Art Unit or Office: Building & Room Number: Enter the case serial number (Required): 

If not related to a patent application, please enter NA here.

Class / Subclass(es) Earliest Priority Filing Date: **Format preferred for results:**

Paper     Diskette     E-mail

**Provide detailed information on your search topic:**

- In your own words, describe in detail the concepts or subjects you want us to search.
- Include synonyms, keywords, and acronyms. Define terms that have special meanings.
- \*For Chemical Structure Searches Only\*  
Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers
- \*For Sequence Searches Only\*  
Include all pertinent information (parent, child, divisional, or issued patent numbers) along with

=> file reg  
FILE 'REGISTRY' ENTERED AT 12:13:02 ON 01 SEP 2004  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 30 AUG 2004 HIGHEST RN 736108-36-4  
DICTIONARY FILE UPDATES: 30 AUG 2004 HIGHEST RN 736108-36-4

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

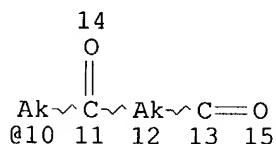
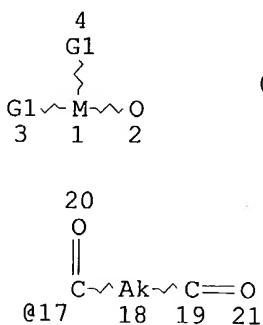
=> file hcaplus  
FILE 'HCAPLUS' ENTERED AT 12:13:07 ON 01 SEP 2004  
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FILE COVERS 1907 - 1 Sep 2004 VOL 141 ISS 10  
FILE LAST UPDATED: 31 Aug 2004 (20040831/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d que  
L5 SCR 2043  
L7 SCR 1918  
L9 STR



query for claim 116 + 14

675 polymers

232 polymers  
limited to Ti or  
Zn

VAR G1=5/7/10/17

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 20

STEREO ATTRIBUTES: NONE

L12	675 SEA FILE=REGISTRY SSS FUL L9 AND L5 AND L7
L13	232 SEA FILE=REGISTRY ABB=ON L12 AND 1-2/TI,ZR
L14	0 SEA FILE=REGISTRY ABB=ON L12 AND 1-2/HF
L15	232 SEA FILE=REGISTRY ABB=ON L13 OR L14
L16	111 SEA FILE=HCAPLUS ABB=ON L15
L19	10 SEA FILE=REGISTRY ABB=ON (13463-67-7/BI OR 141-97-9/BI OR 161457-07-4/BI OR 25119-62-4/BI OR 25322-68-3/BI OR 25791-96-2/ BI OR 27901-88-8/BI OR 31694-55-0/BI OR 42503-45-7/BI OR 9051-49-4/BI)
L20	8 SEA FILE=REGISTRY ABB=ON L19 AND PMS/CI
L21	7 SEA FILE=REGISTRY ABB=ON L20 NOT 1/TI
L22	2 SEA FILE=REGISTRY ABB=ON L19 NOT L20
L23	1 SEA FILE=REGISTRY ABB=ON L22 NOT 1/TI
L24	9894 SEA FILE=HCAPLUS ABB=ON L23
L25	4 SEA FILE=HCAPLUS ABB=ON L16 AND L24
L26	78771 SEA FILE=HCAPLUS ABB=ON L21
L27	1 SEA FILE=HCAPLUS ABB=ON L16 AND L26
L28	4 SEA FILE=HCAPLUS ABB=ON L15/DP
L29	61 SEA FILE=HCAPLUS ABB=ON L16(L) (PREP OR IMF OR SPN) /RL
L30	17 SEA FILE=HCAPLUS ABB=ON L29 AND COATING?/SC,SX,AB,BI
L31	6 SEA FILE=HCAPLUS ABB=ON L30 NOT (SI OR ?SILOX? OR ?SILAN? OR ?SILYL? OR ?SILICON? OR SI)
L32	36 SEA FILE=HCAPLUS ABB=ON L29 NOT (SI OR ?SILOX? OR ?SILAN? OR ?SILYL? OR ?SILICON? )
L33	4 SEA FILE=HCAPLUS ABB=ON L29 AND ?OLIGOM?
L34	42 SEA FILE=HCAPLUS ABB=ON L25 OR L27 OR L28 OR L31 OR L32 OR L33

42 C4 references - limited only by preparation

=> d 134 bib abs ind hitstr

L34 ANSWER 1 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:633958 HCAPLUS  
DN 141:158645

TI Hybrid organic-inorganic polymer coatings with high refractive indices for optical devices

IN Flaim, Tony D.; Wang, Yubao; Mercado, Ramil-Marcelo L.

PA Brewer Science, Inc., USA

SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004065428	A2	20040805	<u>WO 2004-US1480</u>	20040116
W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KP, KR, KR, KZ, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ, MZ, NA, NI				

PRAI US 2003-441693P P 20030121

US 2004-758503 A 20040115

AB The composition comprises an organometallic **oligomer** -[M(R1)(R1)O]<sub>n</sub>- (n > 2; M = Group 3-5 and 13-15 metal other than silicone with combining valence >+2; R1 = organic moiety), such as β-diketonate-chelated organometallic **oligomer** prepared from poly(di-Bu titanate) and Et acetoacetate, dispersed or dissolved in a solvent system; and an organic polymer or **oligomer** with weight average mol. weight ≥150 g/mol containing a functional group operable to form a covalent or coordinate-covalent bond with the organometallic **oligomer**, such as SAA 101 (styrene-allyl alc.). The compns. have long shelf lives and can be prepared by easy and reliable preparation procedures. The compns. can

be

cured to cause conversion of the compns. into films of metal oxide inter dispersed with organic polymer or **oligomer**. The cured films have high refractive indexes, high optical charities, and good mech. stabilities at film thickness >1 μm.

IC ICM C08F

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 73

ST hybrid org inorg polymer coating optical device; refractive index org inorg polymer coating

IT Optical imaging devices

(flat panels; hybrid organic-inorg. polymer coatings with high refractive indexes for optical devices)

IT Coating materials

Electroluminescent devices

Hybrid organic-inorganic materials

Optical instruments

Optical integrated circuits

Optical sensors

(hybrid organic-inorg. polymer coatings with high refractive indexes for optical devices)

IT Oxides (inorganic), uses

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(hybrid organic-inorg. polymer coatings with high refractive indexes for optical devices)

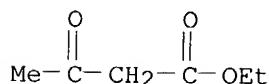
IT Polyoxyalkylenes, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(hybrid organic-inorg. polymer coatings with high refractive indexes for optical devices)

- IT 141-97-9DP, Ethyl acetoacetate, reaction products with poly(di-Bu titanate) 13463-67-7P, Titana, uses 27901-88-8DP, 2-Acetoacetoxyethyl methacrylate-methyl methacrylate copolymer, reaction products with poly(di-Bu titanate) 161457-07-4DP, reaction products with Et acetoacetate or acrylic copolymers  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (hybrid organic-inorg. polymer coatings with high refractive indexes for optical devices)
- IT 9051-49-4, Propoxylated pentaerythritol 25119-62-4, SAA 101 25322-68-3, Polyethylene glycol 25791-96-2, Propoxylated glycerol 31694-55-0, Ethoxylated glycerol 42503-45-7, Ethoxylated pentaerythritol  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (hybrid organic-inorg. polymer coatings with high refractive indexes for optical devices)
- IT 141-97-9DP, Ethyl acetoacetate, reaction products with poly(di-Bu titanate) 27901-88-8DP, 2-Acetoacetoxyethyl methacrylate-methyl methacrylate copolymer, reaction products with poly(di-Bu titanate) 161457-07-4DP, reaction products with Et acetoacetate or acrylic copolymers  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (hybrid organic-inorg. polymer coatings with high refractive indexes for optical devices)
- RN 141-97-9 HCAPLUS  
 CN Butanoic acid, 3-oxo-, ethyl ester (9CI) (CA INDEX NAME)

*derivative  
preparation  
of the  
starting  
Ti  
Compound*



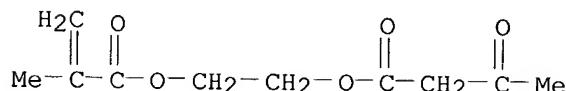
RN 27901-88-8 HCAPLUS

CN Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 21282-97-3

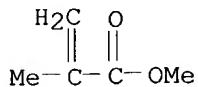
CMF C10 H14 O5



CM 2

CRN 80-62-6

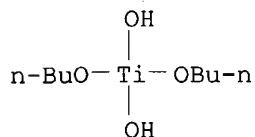
CMF C5 H8 O2



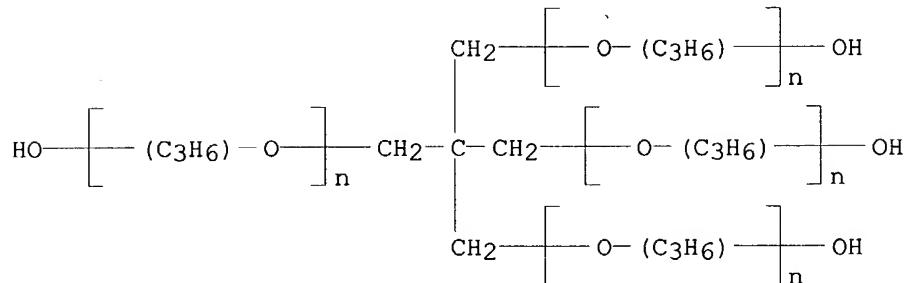
RN 161457-07-4 HCPLUS  
 CN Titanium, dibutoxydihydroxy-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 14531-96-5  
 CMF C8 H20 O4 Ti



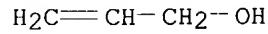
IT 9051-49-4, Propoxylated pentaerythritol 25119-62-4, SAA  
 101 25322-68-3, Polyethylene glycol 25791-96-2,  
 Propoxylated glycerol 31694-55-0, Ethoxylated glycerol  
 42503-45-7, Ethoxylated pentaerythritol  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (hybrid organic-inorg. polymer coatings with high refractive indexes for  
 optical devices)  
 RN 9051-49-4 HCPLUS  
 CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -hydro- $\omega$ -hydroxy-, ether  
 with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1) (9CI) (CA INDEX NAME)



RN 25119-62-4 HCPLUS  
 CN 2-Propen-1-ol, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

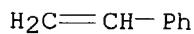
CM 1

CRN 107-18-6  
 CMF C3 H6 O

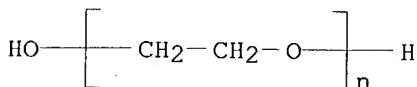


CM 2

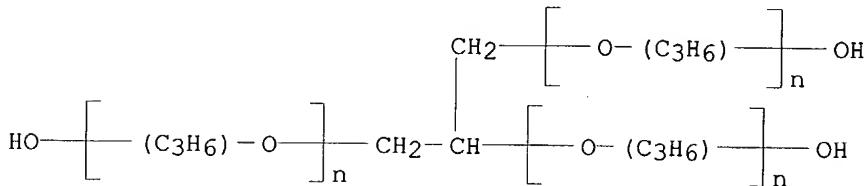
CRN 100-42-5  
CMF C8 H8



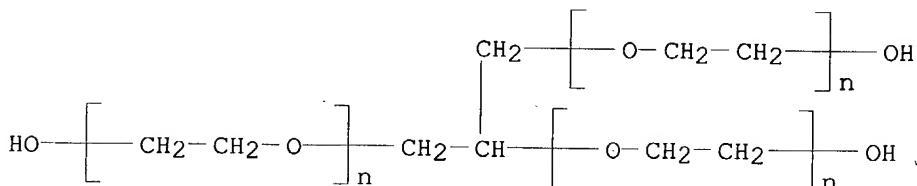
RN 25322-68-3 HCPLUS  
CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -hydroxy- (9CI) (CA INDEX NAME)



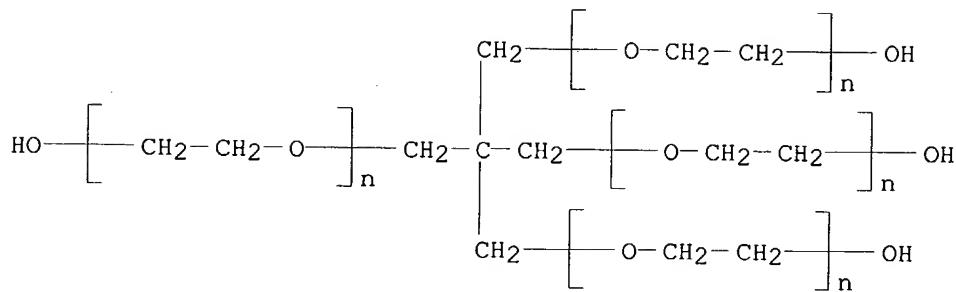
RN 25791-96-2 HCPLUS  
CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha,\alpha',\alpha''-1,2,3$ -propanetriyltris[ $\omega$ -hydroxy- (9CI) (CA INDEX NAME)



RN 31694-55-0 HCPLUS  
CN Poly(oxy-1,2-ethanediyl),  $\alpha,\alpha',\alpha''-1,2,3$ -propanetriyltris[ $\omega$ -hydroxy- (9CI) (CA INDEX NAME)



RN 42503-45-7 HCPLUS  
CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1) (9CI) (CA INDEX NAME)



=> d 134 bib abs ind hitstr 2-42

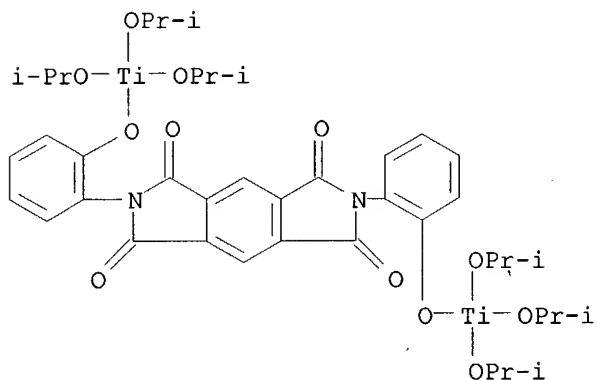
L34 ANSWER 2 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:391349 HCAPLUS  
DN 140:392063  
TI Heat-resistant thermosetting resin compositions and cured products of them  
IN Ito, Masayuki; Suga, Yasuhiro  
PA Aisin Seiki Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 8 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2004137376	A2	20040513	JP 2002-303424	20021017
PRAI JP 2002-303424		20021017		
AB	The compns., useful for friction materials, comprise novolaks, bis(o-hydroxyphenyl)pyromellitiimide (I), and hexamethylenetetramine (II). The cured products are based on phenol and I units and linked by methylene, CH2OCH2, CH2NR"CH2, OMXn-2RmO, and/or OM(OR)n-2R'mo (R, R' = ClH2l+1; l = 1-6; R" = H, CH2) groups between phenol units, I units, and phenol and I units. Thus, phenol 500, I (prepared from o-aminophenol and pyromellitic dianhydride) 50, and paraformaldehyde 67.2 g were mixed, heated to 120°, cooled, mixed with 177.3 g of 36% aqueous HCHO solution and 5 g oxalic acid, refluxed for 3 h, and freed of H2O and free phenol under reduced pressure to give a novolak, 90 parts of which was kneaded with 10 parts II, crushed, hot-pressed, and heated to 160-200° to give a cured product showing decomposition temperature 533° in N and 542° in air.			
IC	ICM C08L061-14			
CC	ICS C08K005-3415; C08K005-3477			
ST	38-3 (Plastics Fabrication and Uses)			
IT	heat resistance novolak hydroxyphenylpyromellitimide			
IT	Heat-resistant materials (heat-resistant novolak compns. containing bis(hydroxyphenyl)pyromellitimide units)			
IT	Polyimides, properties			
RL:	IMF (Industrial manufacture); PRP (Properties); PREP (Preparation) (phenolic; heat-resistant novolak compns. containing bis(hydroxyphenyl)pyromellitimide units)			
IT	Phenolic resins, properties			
RL:	IMF (Industrial manufacture); PRP (Properties); PREP (Preparation) (polyimide-; heat-resistant novolak compns. containing			

bis(hydroxyphenyl)pyromellitimide units)  
 IT 686342-42-7P 686342-43-8P  
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)  
 (heat-resistant novolak compns. containing bis(hydroxyphenyl)pyromellitimide units)  
 IT 31664-79-6P 686342-41-6P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (heat-resistant novolak compns. containing bis(hydroxyphenyl)pyromellitimide units)  
 IT 89-32-7, Pyromellitic dianhydride  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with aminophenol)  
 IT 95-55-6, o-Aminophenol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with pyromellitic dianhydride)  
 IT 686342-43-8P  
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)  
 (heat-resistant novolak compns. containing bis(hydroxyphenyl)pyromellitimide units)  
 RN 686342-43-8 HCPLUS  
 CN Titanium, [ $\mu$ -[2,6-bis[2-(hydroxy- $\kappa$ O)phenyl]benzo[1,2-c:4,5-c']dipyrrole-1,3,5,7(2H,6H)-tetronato(2-)]hexakis(2-propanolato)di-, polymer with formaldehyde, phenol and 1,3,5,7-tetraazatricyclo[3.3.1.13,7]decane (9CI) (CA INDEX NAME)

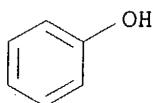
CM 1

CRN 686342-41-6  
 CMF C40 H52 N2 O12 Ti2



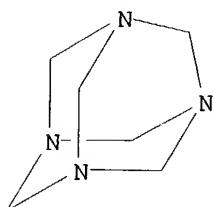
CM 2

CRN 108-95-2  
 CMF C6 H6 O



CM 3

CRN 100-97-0  
CMF C6 H12 N4



CM 4

CRN 50-00-0  
CMF C H2 O

H<sub>2</sub>C=O

L34 ANSWER 3 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:310850 HCPLUS

DN 140:340100

TI Curable adhesive compositions containing maleimide-multifunctional thiol  
**oligomers** suitable for optical applications

IN Shustack, Paul J.

PA USA

SO U.S. Pat. Appl. Publ., 14 pp.  
CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2004072933	A1	20040415	US 2002-253623	20020923
PRAI US 2002-253623		20020923		

AB A composition suitable for use as an adhesive or coating comprises (a) at least one polymerizable component curable by actinic radiation or electron beam radiation, (b) at least one multifunctional thiol of the general formula R-(SH)<sub>n</sub>, where R is any organic functional group excluding polyesters, polysulfides, mercaptoesters and carbon-carbon double bonds., and (c) optionally, a viscosity reducing polymerizable component. The composition can be used as adhesion promoter and/or primer to enhance adhesion of photo- or electron beam-curable polymers, coatings, adhesives, or sealants to

gold, other precious metals, and their alloys. The resulting cured compns. are optically clear, have low Tg ( $\leq 30^\circ$ ), high refractive index ( $> 1.50$  at 1541 nm), thermally, oxidatively, and hydrolytically stable. The adhesive compns. containing such multifunctional thiols can survive, without delamination or separation, testing conditions of 85° and 85% relative humidity for time in excess of 500 h. Thus, an adhesive composition comprising 69.0% of an **oligomer** of 4,4'-dimercaptodiphenyl sulfide and a bismaleimide of a C36-alkylene diamine (QMI 501), 23.0% of ethoxylated nonylphenol acrylate (Aronix M-111), 4.0% of Irgacure 1850, 3.0% of 3-mercaptopropyltrimethoxysilane (Silquest A-189), and 1.0% of Irganox 1035 antioxidant was produced.

- IC ICM C08G002-00
- NCL 524280000
- CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 73
- ST maleimide polythiol acrylate curable adhesive compn optical application
- IT Fluoropolymers, uses
  - RL: TEM (Technical or engineered material use); USES (Uses) (acrylate-containing; curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)
- IT Epoxy resins, uses
  - Polyesters, uses
  - Polyethers, uses
  - Polysiloxanes, uses
  - Polyurethanes, uses
    - RL: TEM (Technical or engineered material use); USES (Uses) (acrylates; curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)
- IT Glass, uses
  - Metals, uses
  - Noble metals
    - RL: DEV (Device component use); USES (Uses) (adhesives for; curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)
- IT Adhesion promoters
  - Adhesives
  - Coating materials
  - Optical films
  - Optical instruments
    - (curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)
- IT Macromonomers
  - RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Réactant or reagent); USES (Uses)
    - (curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)
- IT Epoxy resins, uses
  - Polythioethers
    - RL: TEM (Technical or engineered material use); USES (Uses)
      - (curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)
- IT Polymerization
  - (photopolymer.; curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)
- IT Polythioethers
  - RL: DEV (Device component use); IMF (Industrial manufacture); PRP

(Properties); PREP (Preparation); USES (Uses)  
(polyether-polyimide-, bismaleimide-based, acrylic; curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)

IT Polyimides, preparation  
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)  
(polyether-polythioether-, bismaleimide-based, acrylic; curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)

IT Polythioethers  
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)  
(polyimide-, bismaleimide-based, acrylic; curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)

IT Polyethers, preparation  
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)  
(polyimide-polythioether-, bismaleimide-based, acrylic; curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)

IT Polyimides, preparation  
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)  
(polythioether-, bismaleimide-based, acrylic; curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)

IT Thiols (organic), uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polythiols; curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)

IT Polymerization  
(radiochem.; curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)

IT Polyethers, uses  
Polyoxalkylenes, uses  
Polyurethanes, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(thiol-terminated; curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)

IT 7440-02-0, Nickel, uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses  
RL: DEV (Device component use); USES (Uses)  
(adhesives for; curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)

IT **679812-56-7P**  
RL: DEV (Device component use); **IMF (Industrial manufacture); PREP (Preparation); USES (Uses)**  
(curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)

IT 679411-06-4P 679812-51-2P 679812-53-4P 679812-54-5P 679812-55-6P  
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)  
(curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)

IT 48145-04-6, 2-Phenoxyethyl acrylate 50974-47-5, Ethoxylated nonylphenol acrylate

RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)  
(curable adhesive compns. containing maleimide-multifunctional thiol  
**oligomers** suitable for optical applications)

IT 79-10-7D, Acrylic acid, esters and thioesters 79-41-4D, Methacrylic acid, esters and thioesters 97-65-4D, Itaconic acid, esters 105-09-9, 1,4-Benzenedimethanethiol 541-59-3D, Maleimide, derivs. 624-39-5, p-Benzenedithiol 626-04-0, m-Benzenedithiol 2399-48-6, Tetrahydrofurfuryl acrylate 2495-35-4, Benzyl acrylate 2495-37-6, Benzyl methacrylate 3570-55-6, 2-Mercaptoethyl sulfide 3724-65-0D, Crotonic acid, esters 4720-60-9, Pentaerythrityl tetramercaptan 5888-33-5, Isobornyl acrylate 12542-30-2, Dicyclopentenyl acrylate 14970-87-7, Triethylene glycol dimercaptan 17534-15-5, o-Benzenedithiol 19362-77-7, 4,4'-Thiobisbenzenethiol 41383-84-0, 1,2-Benzenedimethanethiol 41563-69-3, 1,3-Benzenedimethanethiol 68169-12-0, Dicyclopentenyl oxyethyl acrylate 71926-19-7 101359-87-9, Capcure 3-800 149303-87-7 288621-94-3 679411-04-2 679796-58-8 679804-71-8, Capcure LOF

RL: TEM (Technical or engineered material use); USES (Uses)  
(curable adhesive compns. containing maleimide-multifunctional thiol  
**oligomers** suitable for optical applications)

IT 679411-05-3P 679812-50-1P 679812-52-3P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(**oligomeric**; curable adhesive compns. containing maleimide-multifunctional thiol **oligomers** suitable for optical applications)

IT 679812-56-7P  
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
(curable adhesive compns. containing maleimide-multifunctional thiol  
**oligomers** suitable for optical applications)

RN 679812-56-7 HCPLUS  
CN Titanate(2-), tetrakis[2,2-bis[(2-propenoxy)methyl]-1-butanolato- $\kappa$ O]bis(ditridecyl phosphito- $\kappa$ O''), dihydrogen, polymer with OMI 501, 2-phenoxyethyl 2-propenoate and 2,2'-thiobis[ethanethiol] (9CI) (CA INDEX NAME)

CM 1

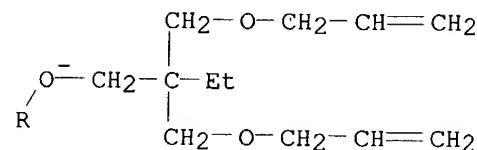
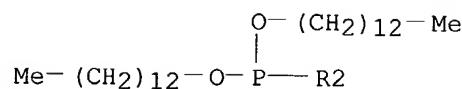
CRN 679812-42-1  
CMF Unspecified  
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

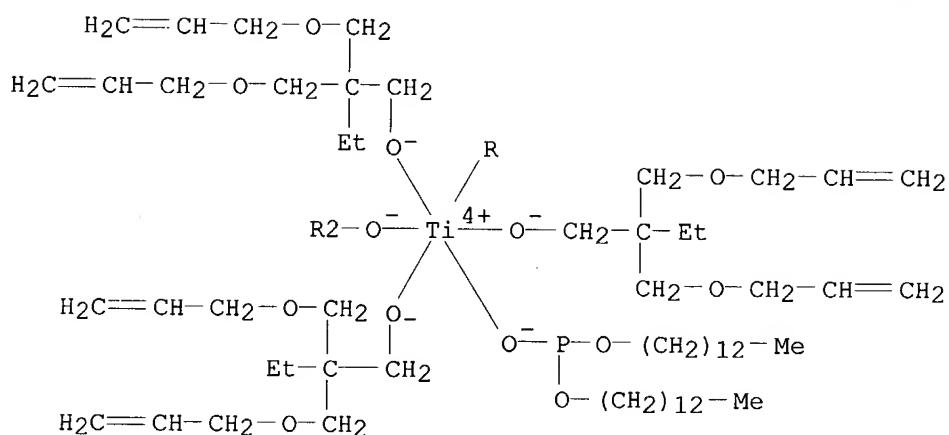
CM 2

CRN 64157-14-8  
CMF C100 H192 O18 P2 Ti . 2 H  
CCI CCS

PAGE 1-A



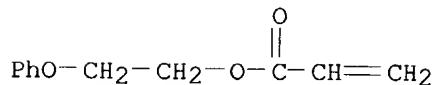
PAGE 2-A



● 2 H<sup>+</sup>

CM 3

CRN 48145-04-6  
CMF C11 H12 O3



CM 4

CRN 3570-55-6  
CMF C4 H10 S3

HS—CH<sub>2</sub>—CH<sub>2</sub>—S—CH<sub>2</sub>—CH<sub>2</sub>—SH

L34 ANSWER 4 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:307545 HCAPLUS  
 DN 140:347541  
 TI Correction liquid containing metal-containing polymer for lithography printing plate  
 IN Okamoto, Yasuo  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 43 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004114360	A2	20040415	JP 2002-277849	20020924
PRAI	JP 2002-277849		20020924		
AB	The correction liquid contains metal-containing polymer with partial structure NCH <sub>2</sub> R <sub>0</sub> (R <sub>0</sub> = PO <sub>3</sub> H <sub>2</sub> , OPO <sub>3</sub> H <sub>2</sub> or their salt). Desired image area can be erased rapidly without bad effect to other image area and stain.				
IC	ICM B41N003-00				
CC	74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes) Section cross-reference(s): 38				
ST	lithog plate correction liq metal polymer				
IT	Lithographic plates (correction liquid containing metal-containing polymer for lithog. printing plate)				
IT	Silsesquioxanes RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (reaction products with phosphonic acid and formaldehyde; correction liquid containing metal-containing polymer for lithog. printing plate)				
IT	50-00-ODP, Formaldehyde, reaction products with amonopropyltriethoxysilane polymer 13598-36-2DP, Phosphonic acid, reaction products with amonopropyltriethoxysilane polymer 29159-37-3DP, 3-Aminopropyltriethoxysilane homopolymer, reaction products with phosphonic acid and formaldehyde 160314-79-4DP, reaction products with phosphonic acid and formaldehyde 170632-79-8DP, 3-Aminopropyltriethoxysilane-tetramethoxysilane copolymer, reaction products with phosphonic acid and formaldehyde 287184-58-1DP, reaction products with phosphonic acid and formaldehyde 679817-61-9DP, reaction products with phosphonic acid and formaldehyde 679817-62-0DP, reaction products with phosphonic acid and formaldehyde 679835-15-5DP, reaction products with phosphonic acid and formaldehyde 679835-17-7DP, reaction products with phosphonic acid and formaldehyde 679835-18-8DP, reaction products with phosphonic acid and formaldehyde RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (correction liquid containing metal-containing polymer for lithog. printing plate)				
IT	679835-17-7DP, reaction products with phosphonic acid and formaldehyde RL: IMF (Industrial manufacture); TEM (Technical or engineered material				

use); PREP (Preparation); USES (Uses)  
 (correction liquid containing metal-containing polymer for lithog. printing  
 plate)

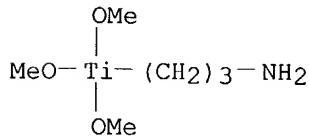
RN 679835-17-7 HCPLUS

CN Titanium, (3-aminopropyl)trimethoxy-, (T-4)-, homopolymer (9CI) (CA INDEX  
 NAME)

CM 1

CRN 679835-16-6

CMF C6 H17 N O3 Ti



L34 ANSWER 5 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN

AN 2003:1007696 HCPLUS

DN 140:50322

TI Developer-soluble metal alkoxide **coatings** for microelectronic  
 applications

IN Krishnamurthy, Vandana; Neef, Charles J.; Snook, Juliet A. M.

PA Brewer Science, Inc., USA

SO U.S. Pat. Appl. Publ., 9 pp.

CODEN: USXXCO

DT Patent

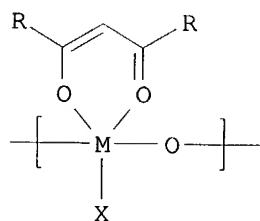
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003235786	A1	20031225	US 2002-180625	<u>20020625</u>
	US 6740469	B2	20040525		
	WO 2004001502	A1	20031231	WO 2003-US19457	20030618
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRAI US 2002-180625 A 20020625

GI



AB Antireflective compns. and methods of using these compns. to form circuits are provided. The compns. comprise a polymer dissolved or dispersed in a solvent system. In a preferred embodiment, the polymers of the composition include recurring units having the formula I (X = light attenuating moiety; M = a metal; R = H, alkyls, aryls, alkoxy, phenoxy). The resulting compns. are spin bowl compatible (i.e., they do not crosslink prior to the bake stages of the microlithog. processes or during storage at room temperature), are wet developable, and have superior optical properties.

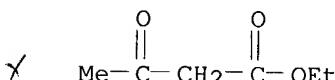
- IC ICM G03F007-30  
ICS G03F007-38; G03F007-11; B32B009-00; B32B019-00; C08G063-48;  
C08L071-12; B05D005-12; B05D003-02; B05D003-12
- NCL 430272100; 430271100; 430325000; 430311000; 430935000; 427096000;  
427097000; 427240000; 427385500; 427387000
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 76
- ST developer soluble metal alkoxide microelectronic photolithog  
antireflective **coating**
- IT Antireflective films  
Microelectronics  
(developer-soluble metal alkoxide **coatings** for microelectronic applications)
- IT Photolithography  
(vacuum UV; developer-soluble metal alkoxide **coatings** for microelectronic applications)
- IT 121-33-5DP, Vanillin, reaction product with Titanium diisopropoxide bis(ethylacetacetate) **141-97-9DP**, Ethyl acetoacetate, reaction product with poly(dibutyltitanate) and Trimethylolethoxylate or Cyano-(hydroxyphenyl)-acrylic acid Et ester **6935-44-0DP**, reaction product with poly(dibutyltitanate) **95461-66-8DP**, reaction product with poly(dibutyltitanate) **161457-07-4DP**, reaction product with Et acetoacetate and Trimethylolethoxylate or Cyano-(hydroxyphenyl)-acrylic acid Et ester **637030-07-0DP**, reaction product with Cyano-(hydroxyphenyl)-acrylic acid Et ester **637030-08-1DP**, reaction product with vanillin  
RL: **SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)**  
(antireflective **coating**; developer-soluble metal alkoxide **coatings** for microelectronic applications)
- IT 75-59-2, Tetramethyl ammonium hydroxide  
RL: **TEM (Technical or engineered material use); USES (Uses)**  
(developer; developer-soluble metal alkoxide **coatings** for microelectronic applications)
- IT 84540-57-8, Propylene glycol methyl ether acetate  
RL: **TEM (Technical or engineered material use); USES (Uses)**

(solvent; developer-soluble metal alkoxide **coatings** for  
microelectronic applications)

IT **141-97-9DP**, Ethyl acetoacetate, reaction product with  
poly(dibutyltitanate) and Trimethylolethoxylate or Cyano-(hydroxyphenyl)-  
acrylic acid Et ester **161457-07-4DP**, reaction product with Et  
acetoacetate and Trimethylolethoxylate or Cyano-(hydroxyphenyl)-acrylic  
acid Et ester  
RL: **SPN (Synthetic preparation); TEM (Technical or engineered**  
**material use); PREP (Preparation); USES (Uses)**  
(antireflective **coating**; developer-soluble metal alkoxide  
**coatings** for microelectronic applications)

RN 141-97-9 HCPLUS

CN Butanoic acid, 3-oxo-, ethyl ester (9CI) (CA INDEX NAME)



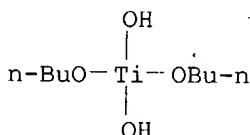
RN 161457-07-4 HCPLUS

CN Titanium, dibutoxydihydroxy-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)

✗ CM 1

CRN 14531-96-5

CMF C8 H20 O4 Ti



L34 ANSWER 6 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN

AN 2003:800401 HCPLUS

DN 140:112135

TI Formation of epoxide-titanium acylate polymers

AU Burdin, A. B.; Suvorov, A. L.; Sennikov, V. V.

CS Inst. Org. Sinteza, UrO RAN, Yekaterinburg, Russia

SO Plastichekie Massy (2003), (7), 27-29

CODEN: PLMSAI; ISSN: 0554-2901

PB ZAO NP "Plastichekie Massy"

DT Journal

LA Russian

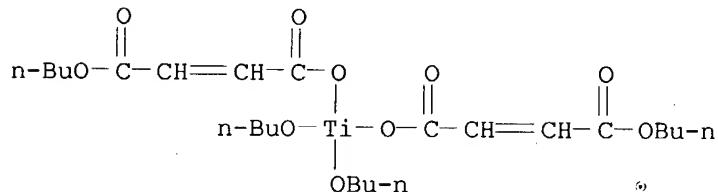
AB Kinetics of crosslinking of ED-20 epoxy resin with dibutoxy titanium bis(Bu succinate), dibutoxy titanium bis(Bu maleate), dibutoxy titanium bis(Bu o-phthalate), dibutoxy titanium bis(Bu cis-4-methyl-1,2,3,6-tetrahydropthalate) was studied. The crosslinking agents were obtained by the reaction of tetrabutoxytitanium with the anhydrides of the corresponding acids. Chemical activities of the crosslinking agents were compared. 7358-82-9, Titanium, [(3-carboxyacryloyl)oxy]triisopropoxy-, iso-Pr ester 7393-49-9, Titanium, acetoxytributoxy- 7393-50-2, Titanium, tributoxy[(3-carboxyacryloyl)oxy]-, Bu ester 7428-41-3, Titanium, dibutoxybis[(3-carboxyacryloyl)oxy]-, di-Bu ester 100154-87-8, Titanium, [(o-carboxybenzoyl)oxy]triisopropoxy-, iso-Pr ester 105792-45-8, Titanium,

CC bis[(o-carboxybenzoyl)oxy]diisopropoxy-, diisopropyl ester (preparation of).  
 ST 37-6 (Plastics Manufacture and Processing)  
 epoxy crosslinking titanium acylate; titanium maleate crosslinking epoxy;  
 phthalate titanium crosslinking epoxy; succinate titanium crosslinking  
 epoxy; tetrahydrophthalate titanium crosslinking epoxy  
 IT Crosslinking  
 Crosslinking agents  
 Crosslinking kinetics  
 Swelling, physical  
 (crosslinking of epoxy resin with titanium acylates)  
 IT Epoxy resins, properties  
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
 (crosslinking of epoxy resin with titanium acylates)  
 IT 344328-77-4P 344328-87-6P 647376-64-5P  
 647842-09-9P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (crosslinking of epoxy resin with titanium acylates)  
 IT 7428-41-3 32618-42-1 32673-51-1 647842-08-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (crosslinking of epoxy resin with titanium acylates)  
 IT 344328-77-4P 344328-87-6P 647376-64-5P  
 647842-09-9P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (crosslinking of epoxy resin with titanium acylates)  
 RN 344328-77-4 HCAPLUS  
 CN Titanium, dibutoxybis[monobutyl (2Z)-2-butenedioato- $\kappa$ O']-, (T-4)-,  
 polymer with (chloromethyl)oxirane and 4,4'-(1-  
 methylethyldene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 7428-41-3

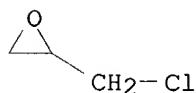
CMF C24 H40 O10 Ti



CM 2

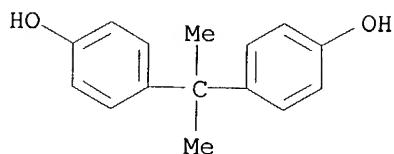
CRN 106-89-8

CMF C3 H5 Cl O



CM 3

CRN 80-05-7  
CMF C15 H16 O2

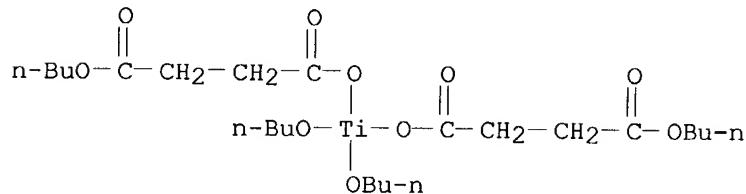


RN 344328-87-6 HCPLUS

CN Titanium, dibutoxybis(butyl butanedioato-O)-, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

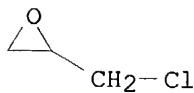
CM 1

CRN 32673-51-1  
CMF C24 H44 O10 Ti



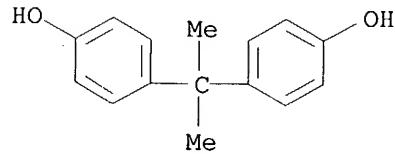
CM 2

CRN 106-89-8  
CMF C3 H5 Cl O



CM 3

CRN 80-05-7  
CMF C15 H16 O2



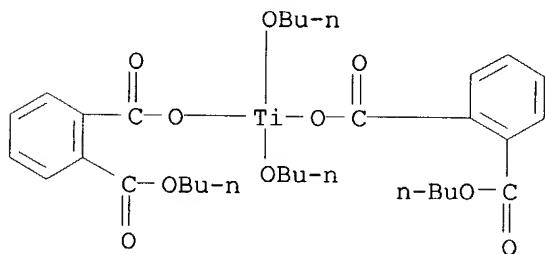
RN 647376-64-5 HCAPLUS

CN Titanium, dibutoxybis(monobutyl 1,2-benzenedicarboxylato- $\kappa$ O<sub>2</sub>)-, (T-4)-, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 32618-42-1

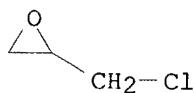
CMF C32 H44 O10 Ti



CM 2

CRN 106-89-8

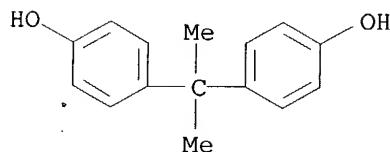
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



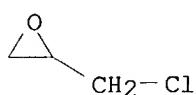
RN 647842-09-9 HCAPLUS

CN Titanium, rel-dibutoxybis[monobutyl (1R,2S)-4-methyl-4-cyclohexene-1,2-dicarboxylato]-, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

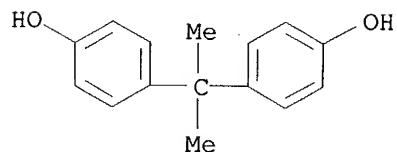
CRN 106-89-8

CMF C3 H5 Cl O



CM 2

CRN 80-05-7  
CMF C15 H16 O2

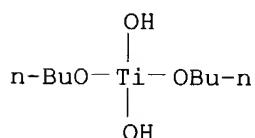


CM 3

CRN 647842-08-8  
CMF C34 H56 O10 Ti  
CCI IDS

CM 4

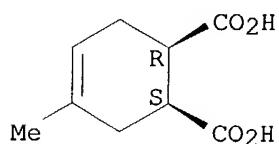
CRN 14531-96-5  
CMF C8 H20 O4 Ti



CM 5

CRN 1654-99-5  
CMF C9 H12 O4

Relative stereochemistry.



CM 6

CRN 71-36-3  
CMF C4 H10 O



L34 ANSWER 7 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2003:596669 HCAPLUS  
 DN 139:150765  
 TI Acetoacetate ester-containing vinyl alcohol polymer compositions with good storage stability and their uses  
 IN Hirai, Yoshiaki; Bandai, Shusaku; Nakai, Tatsuaki  
 PA Nippon Synthetic Chemical Industry Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

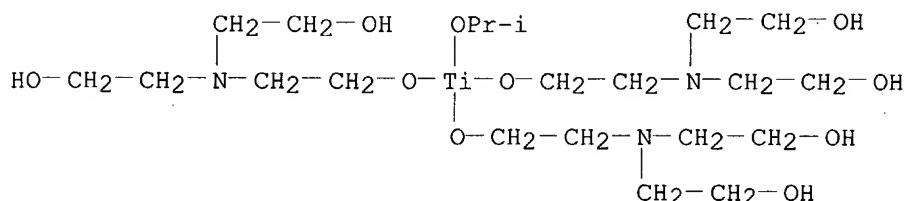
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003221482	A2	20030805	JP 2002-20945	20020130
PRAI	JP 2002-20945		20020130		
AB The compns., useful for thermal recording media and jet-printing media, etc., comprise acetoacetate ester-containing vinyl alc. polymers and Ti compds. containing $(\text{RO})_n\text{Ti}(\text{OXNHYZ})_{4-n}$ or $(\text{RO})_n\text{Ti}[\text{OXN}(YZ)_2]_{4-n}$ ( $\text{R} = \text{C1-6 alkyl}$ ; $X, Y = \text{C1-6 alkylene}$ ; $Z = \text{OH, amino}$ ; $n = 0, 1$ ). Thus, a composition containing 400					
parts acetoacetate ester-containing poly(vinyl alc.) (acetoacetate ester content 5 mol%) and 2 parts Plenact KR 44 [isopropyltris(N-aminoethylaminoethyl) titanate] was applied on a paper substrate and dried to give a jet-printing sheet with good water resistance.					
IC	ICM C08L029-04				
CC	ICS B41J002-01; B41M005-00; B41M005-26; C08K005-17				
ST	38-3 (Plastics Fabrication and Uses)				
Section cross-reference(s): 74					
ST	vinyl alc polymer acetoacetate titanate water resistance; thermal recording jet printing media PVA; isopropyl aminoethylaminoethyl titanate crosslinking agent PVA				
IT	Crosslinking agents				
Ink-jet recording sheets					
Water-resistant materials					
(acetoacetate ester-containing vinyl alc. polymer compns. with good storage stability)					
IT	Recording materials				
(thermal; acetoacetate ester-containing vinyl alc. polymer compns. with good storage stability)					
IT	571178-43-3P, Poly(vinyl alcohol) acetoacetate-Plenact KR 44 copolymer				
571178-44-4P, Isopropyltris[bis(N-hydroxyethyl)aminoethyl] titanate-poly(vinyl alcohol) acetoacetate copolymer					
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)					
(acetoacetate ester-containing vinyl alc. polymer compns. with good storage stability)					
IT	65380-84-9, Plenact KR 44 571174-54-4				
RL: RCT (Reactant); RACT (Reactant or reagent)					
(crosslinking agent; acetoacetate ester-containing vinyl alc. polymer compns. with good storage stability)					
IT	571178-44-4P, Isopropyltris[bis(N-hydroxyethyl)aminoethyl] titanate-poly(vinyl alcohol) acetoacetate copolymer				

RL: **IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)**  
 (acetooacetate ester-containing vinyl alc. polymer compns. with good storage stability)

RN 571178-44-4 HCPLUS

CN Titanium, tris[2-[bis(2-hydroxyethyl)amino]ethanolato- $\kappa$ O](2-propanolato)-, (T-4)-, polymer with ethenol homopolymer 3-oxobutanoate (9CI) (CA INDEX NAME)

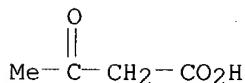
CM 1

CRN 571174-54-4  
CMF C21 H49 N3 O10 Ti

CM 2

CRN 39290-68-1  
CMF C4 H6 O3 . x (C2 H4 O)x

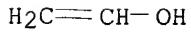
CM 3

CRN 541-50-4  
CMF C4 H6 O3

CM 4

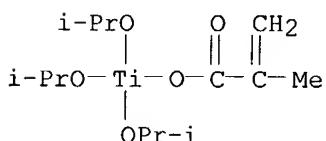
CRN 9002-89-5  
CMF (C2 H4 O)x  
CCI PMS

CM 5

CRN 557-75-5  
CMF C2 H4 O

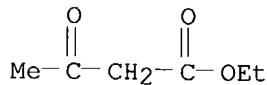
AN 2002:815020 HCAPLUS  
 DN 138:322161  
 TI In Situ Processing of Nano Crystalline Oxide Particles/Polymer Hybrid  
 AU Hirano, Shin-ichi; Yogo, Toshinobu; Sakamoto, Wataru; Yamada, Seiji;  
 Nakamura, Tomoyuki; Yamamoto, Tomoe; Ukai, Hiroyuki; Banno, Kouichi;  
 Nakafuku, Tomoko; Ando, Yukari  
 CS Graduate School of Engineering, Department of Applied Chemistry, Nagoya  
 University, Chikusa-ku, Nagoya, 464-8603, Japan  
 SO Journal of Sol-Gel Science and Technology (2003), 26(1/2/3), 35-41  
 CODEN: JSGTEC; ISSN: 0928-0707  
 PB Kluwer Academic Publishers  
 DT Journal; General Review  
 LA English  
 AB A review on preparation of nano sized crystalline magnetic or dielec.  
 particles/iron  
 tris(allylacetylacetone) or methacryltrisisopropoxytitanium polymer  
 hybrids from designed metal-organic precursors modified with polymerizable  
 ligand by synthesis of organic matrix by polymerization and in situ nucleation  
 and  
 growth of crystalline oxide particles in the organic matrix below 100°C.  
 CC 38-0 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 35, 77  
 ST review cryst nanoparticle iron trisallylacetylacetone polymer hybrid  
 prepn; nanoparticle magnetic dielec methacryltrisisopropoxytitanium  
 polymer review  
 IT Vinyl compounds, properties  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (polymers; preparation and properties of nano sized crystalline magnetic or  
 dielec. particles/allyl or methacrylate polymer hybrids)  
 IT Hybrid organic-inorganic materials  
 Nanoparticles  
 (preparation and properties of nano sized crystalline magnetic or dielec.  
 particles/allyl or methacrylate polymer hybrids)  
 IT 163549-92-6P 174659-61-1P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (préparation and properties of nano sized crystalline magnetic or dielec.  
 particles/allyl or methacrylate polymer hybrids)  
 IT 163549-92-6P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (preparation and properties of nano sized crystalline magnetic or dielec.  
 particles/allyl or methacrylate polymer hybrids)  
 RN 163549-92-6 HCAPLUS  
 CN Titanium, (2-methyl-2-propenoato-O)tris(2-propanolato)-, (T-4)-,  
 homopolymer (9CI) (CA INDEX NAME)

CM 1

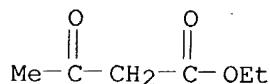
 CRN 18327-72-5  
 CMF C13 H26 O5 Ti


RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 9 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:559900 HCAPLUS  
DN 137:270325  
TI Novel spin bowl compatible, wet developable bottom anti-reflective coating for i-line applications  
AU Neef, Charles J.; Krishnamurthy, Vandana; Turner, Stephen R.  
CS Brewer Science, Inc., Rolla, MO, 65401, USA  
SO Polymeric Materials Science and Engineering (2002), 87, 199-200  
CODEN: PMSEDG; ISSN: 0743-0515  
PB American Chemical Society  
DT Journal; (computer optical disk)  
LA English  
AB In this paper, the preparation and studies of a novel wet developable, spin bowl compatible BARC derived from a titanium sol-gel material are reported. This BARC shows good compatibility with resist solvents and excellent photolithog. performance compared to previous work.  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 42  
ST antireflective film coating i line photolithog titanate titanium solgel  
IT Photolithography  
    (UV; spin bowl compatible, wet developable bottom anti-reflective coating for i-line photolithog. derived from titanium sol-gel material)  
IT Antireflective films  
     спин bowl compatible, wet developable bottom anti-reflective coating for i-line photolithog. derived from titanium sol-gel material)  
IT 6935-44-0  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)  
    (CHAE; in bottom anti-reflective coating preparation)  
IT 141-97-9 141-97-9D, reaction products with poly(di-Bu titanate) 32458-00-7 32458-00-7D, reaction products with Et acetoacetate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
    (in bottom anti-reflective coating preparation)  
IT 462121-07-9, PFI 3488  
RL: TEM (Technical or engineered material use); USES (Uses)  
    (spinn bowl compatible, wet developable bottom anti-reflective coating for i-line photolithog. derived from titanium sol-gel material)  
IT 141-97-9 141-97-9D, reaction products with poly(di-Bu titanate) 32458-00-7 32458-00-7D, reaction products with Et acetoacetate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
    (in bottom anti-reflective coating preparation)  
RN 141-97-9 HCAPLUS  
CN Butanoic acid, 3-oxo-, ethyl ester (9CI) (CA INDEX NAME)



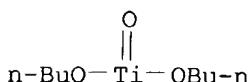
RN 141-97-9 HCAPLUS  
CN Butanoic acid, 3-oxo-, ethyl ester (9CI) (CA INDEX NAME)



RN 32458-00-7 HCPLUS  
 CN Titanium, dibutoxyoxo-, homopolymer (9CI) (CA INDEX NAME)

CM 1

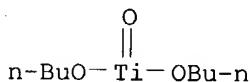
CRN 30860-71-0  
 CMF C8 H18 O3 Ti



RN 32458-00-7 HCPLUS  
 CN Titanium, dibutoxyoxo-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 30860-71-0  
 CMF C8 H18 O3 Ti



RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 10 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:745616 HCPLUS  
 DN 135:306203  
 TI Sulfonic acid group-containing polymer, proton-conducting polymer electrolyte, and fuel cell using it  
 IN Nakano, Yoshihiko; Akasaka, Yoshihiro; Ozu, Hideyuki; Tomimatsu, Morohiro; Takashita, Masahiro; Yasuda, Kazuhiro; Kakuno, Hiroyasu; Yonetsu, Maki; Hayase, Shuji  
 PA Toshiba Corp., Japan  
 SO Jpn. Kokai Tokyo Koho, 13 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2001283635	A2	20011012	JP 2000-159175	20000331
PRAI JP 2000-159175		20000331		
AB	Claimed polymer has repeating units CR <sub>1</sub> R <sub>2</sub> CR <sub>3</sub> AX and CR <sub>4</sub> R <sub>5</sub> CR <sub>6</sub> BSi(OR <sub>7</sub> ) <sub>3</sub> (X = SO <sub>2</sub> Y or SO <sub>3</sub> Z; R <sub>1</sub> -R <sub>7</sub> = hydrocarbyl, H, halo; A = valence or divalent organic group free from benzene ring; B = valence or organic group; Y = halo, NH <sub>2</sub> ,			

hydrocarbyl-substituted amino group; Z = alkyl, alkali metal, quaternary ammonium). Claimed proton-conducting polymer electrolyte comprises a polymer  $(CR_1R_2CR_3ASO_3H)_m(CR_4R_5CR_6BSi)_n$  (I) in which Si is bonded through O. Also claimed polymer electrolyte comprises a polymer I in which Si is bonded through a group OMO (M = Si, Al, Zr, Ti, and/or B). A fuel cell using the proton-conducting electrolyte is also claimed. The polymer electrolyte has high chemical stability.

- IC ICM H01B001-06
- ICS H01M008-02; H01M008-10
- CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
Section cross-reference(s): 38, 76
- ST sulfonic acid vinyl silsesquioxane proton conducting polymer electrolyte; fuel cell polymer electrolyte sulfonic acid vinyl silsesquioxane
- IT Silsesquioxanes
  - RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (aluminoxane-; sulfonic acid group-containing vinyl silsesquioxane and proton-conducting polymer electrolyte for fuel cell)
- IT Ionic conductors
  - (polymeric; sulfonic acid group-containing vinyl silsesquioxane and proton-conducting polymer electrolyte for fuel cell)
- IT Sulfonic acids, uses
  - RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polymers; sulfonic acid group-containing vinyl silsesquioxane and proton-conducting polymer electrolyte for fuel cell)
- IT Aluminoxanes
  - Titanoxanes
  - Zirconoxanes
    - RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (silsesquioxane-; sulfonic acid group-containing vinyl silsesquioxane and proton-conducting polymer electrolyte for fuel cell)
- IT Polymers, uses
  - RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (sulfo-containing; sulfonic acid group-containing vinyl silsesquioxane and proton-conducting polymer electrolyte for fuel cell)
- IT Fuel cell electrolytes
  - Polymer electrolytes
  - Solid state fuel cells
    - (sulfonic acid group-containing vinyl silsesquioxane and proton-conducting polymer electrolyte for fuel cell)
- IT Silsesquioxanes
  - RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (titanoxane-; sulfonic acid group-containing vinyl silsesquioxane and proton-conducting polymer electrolyte for fuel cell)
- IT Silsesquioxanes
  - RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (zirconoxane-; sulfonic acid group-containing vinyl silsesquioxane and proton-conducting polymer electrolyte for fuel cell)
- IT 365494-31-1DP, hydrolyzed 365494-31-1P 365494-32-2DP, hydrolyzed  
365494-32-2P 365494-33-3DP, hydrolyzed 365494-33-3P 365494-34-4DP,  
hydrolyzed 365494-34-4P 365494-36-6DP, hydrolyzed 365494-36-6P  
365494-37-7DP, hydrolyzed 365494-37-7P 365494-38-8DP, hydrolyzed  
365494-38-8P 365494-39-9DP, hydrolyzed 365494-39-9P 365494-40-2DP,  
hydrolyzed 365494-40-2P 365494-42-4DP, hydrolyzed 365494-44-6DP,

hydrolyzed **365544-15-6DP**, hydrolyzed

RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (sulfonic acid group-containing vinyl silsesquioxane and proton-conducting polymer electrolyte for fuel cell)

IT **365544-15-6DP**, hydrolyzed

RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (sulfonic acid group-containing vinyl silsesquioxane and proton-conducting polymer electrolyte for fuel cell)

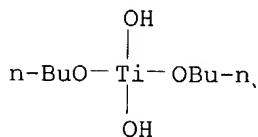
RN 365544-15-6 HCAPLUS

CN Titanium, dibutoxydihydroxy-, (T-4)-, polymer with ethenyltrimethoxysilane and 1-methylethyl ethenesulfonate (9CI) (CA INDEX NAME)

CM 1

CRN 14531-96-5

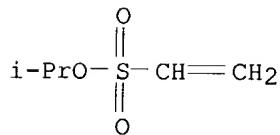
CMF C8 H20 O4 Ti



CM 2

CRN 3851-91-0

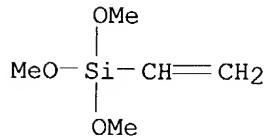
CMF C5 H10 O3 S



CM 3

CRN 2768-02-7

CMF C5 H12 O3 Si



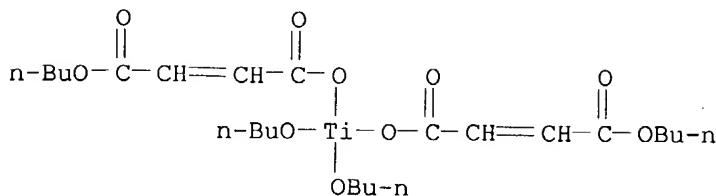
L34 ANSWER 11 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:232843 HCAPLUS

DN 135:46937

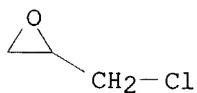
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

TI Dielectric spectroscopy study of polymers based on epoxy resins and acyloxy derivatives of titanium  
AU Burdin, A. B.; Suvorov, A. L.; Burdina, L. L.; Dul'tseva, L. D.; Khonina, T. G.; Sennikov, V. V.  
CS Inst. Org. Sinteza, UrO RAN, Russia  
SO Plasticheskie Massy (2001), (2), 34-36  
CODEN: PLMSAI; ISSN: 0554-2901  
PB ZAO NP "Plasticheskie Massy"  
DT Journal  
LA Russian  
AB Bisphenol A epoxy resin was crosslinked with  $(BuO)_{4-n}Ti(OCORCOOBu)_n$ , where R is a residue of maleic, phthalic, succinic or cis-4-methyltetrahydrophthalic acid. All the systems were homogeneous, optimum resin-crosslinking agent ratio is 4:1 - 6:1. Dielec. spectroscopy was used to determination thermodn. characteristics of crosslinking and glass transition processes.  
CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 36  
ST epoxy resin crosslinking acyloxybutoxy titanium dielec spectroscopy glass transition  
IT Crosslinking enthalpy  
Dielectric loss  
Free energy  
Glass transition  
(dielec. spectroscopy study of polymers based on epoxy resins cured with titanium acyloxy derivs.)  
IT Polymer chains  
(relaxation; dielec. spectroscopy study of polymers based on epoxy resins cured with titanium acyloxy derivs.)  
IT Epoxy resins, properties  
RL: PRP (Properties)  
(titanoxane-; dielec. spectroscopy study of polymers based on epoxy resins cured with titanium acyloxy derivs.)  
IT 344328-77-4P 344328-79-6P 344328-82-1P  
344328-85-4P 344328-87-6P 344797-50-8P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(dielec. spectroscopy study of polymers based on epoxy resins cured with titanium acyloxy derivs.)  
IT 344328-77-4P 344328-79-6P 344328-82-1P  
344328-85-4P 344328-87-6P 344797-50-8P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(dielec. spectroscopy study of polymers based on epoxy resins cured with titanium acyloxy derivs.)  
RN 344328-77-4 HCPLUS  
CN Titanium, dibutoxybis[monobutyl (2Z)-2-butenedioato- $\kappa O'$ ]-, (T-4)-, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)  
CM 1  
CRN 7428-41-3  
CMF C24 H40 O10 Ti



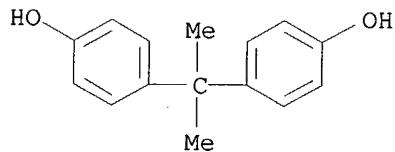
CM 2

CRN 106-89-8  
CMF C3 H5 Cl O



CM 3

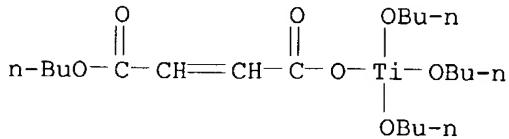
CRN 80-05-7  
CMF C15 H16 O2



RN 344328-79-6 HCPLUS  
CN Titanium, tributoxy[monobutyl (2Z)-2-butenedioato-κO4]-, (T-4)-, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

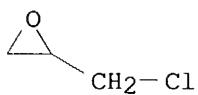
CM 1

CRN 7393-50-2  
CMF C20 H38 O7 Ti



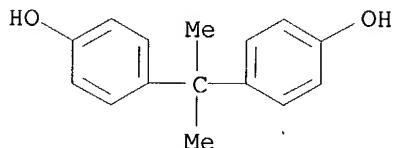
CM 2

CRN 106-89-8  
CMF C3 H5 Cl O



CM 3

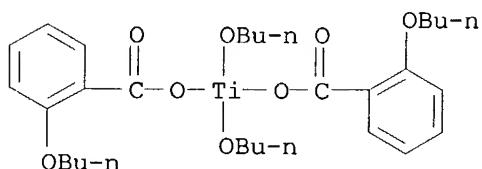
CRN 80-05-7  
CMF C15 H16 O2



RN 344328-82-1 HCAPLUS  
CN Titanium, dibutoxybis(2-butoxybenzoato- $\kappa$ O)-, (T-4)-, polymer with  
(chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA  
INDEX NAME)

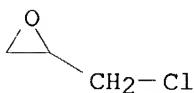
CM 1

CRN 344328-81-0  
CMF C30 H44 O8 Ti



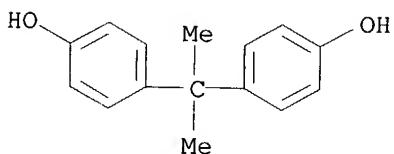
CM 2

CRN 106-89-8  
CMF C3 H5 Cl O



CM 3

CRN 80-05-7  
CMF C15 H16 O2



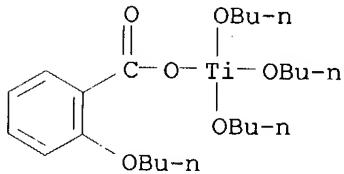
RN 344328-85-4 HCPLUS

CN Titanium, tributoxy(2-butoxybenzoato- $\kappa$ O)-, (T-4)-, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 344328-84-3

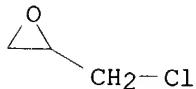
CMF C23 H40 O6 Ti



CM 2

CRN 106-89-8

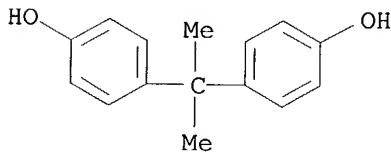
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2

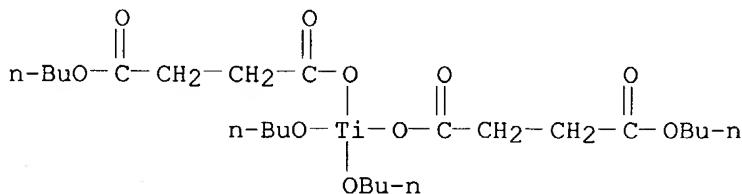


RN 344328-87-6 HCPLUS

CN Titanium, dibutoxybis(butyl butanedioato-O)-, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

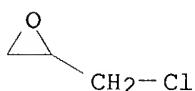
CM 1

CRN 32673-51-1  
CMF C24 H44 O10 Ti



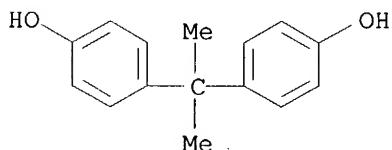
CM 2

CRN 106-89-8  
CMF C3 H5 Cl O



CM 3

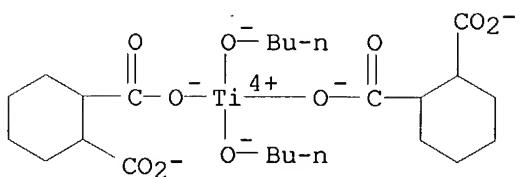
CRN 80-05-7  
CMF C15 H16 O2



RN 344797-50-8 HCPLUS  
CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane and dihydrogen dibutoxy[methyl-1,2-cyclohexanedicarboxylato(2-)-κO]titanate(2-) stereoisomer (9CI) (CA INDEX NAME)

CM 1

CRN 344797-49-5  
CMF C26 H42 O10 Ti . 2 H  
CCI CCS, IDS

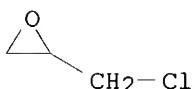


2 ( D1-Me )

● 2 H<sup>+</sup>

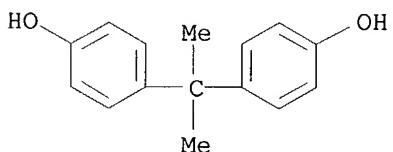
CM 2

CRN 106-89-8  
CMF C3 H5 Cl O



CM 3

CRN 80-05-7  
CMF C15 H16 O2



L34 ANSWER 12 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
AN 2000:579542 HCPLUS  
DN 133:282159  
TI Preparation of soluble, linear titanium-containing copolymers by the free-radical copolymerization of vinyl titanate monomers with styrene  
AU Branham, Keith E.; Byrd, Houston; Cook, Robert; Mays, Jimmy W.; Gray, Gary M.  
CS Absorbable Polymer Technologies, Inc., Pelham, AL, 35124, USA  
SO Journal of Applied Polymer Science (2000), 78(1), 190-199  
CODEN: JAPNAB; ISSN: 0021-8995  
PB John Wiley & Sons, Inc.  
DT Journal  
LA English

AB Linear, soluble copolymers containing titanium are of interest for use in targets

for inertial-confinement fusion (ICF) expts. because the titanium is a useful spectroscopic probe for studying the nuclear fusion process. Some suitable copolymers have been prepared from vinyl titanate monomers and styrene via free-radical polymerization Soluble copolymers with mol. wts. between

70,000 and 100,000 dalton containing 0.1 atom % titanium can be reliably prepared. These copolymers were incorporated into targets used in inertial-confinement fusion expts. at Lawrence Livermore National Laboratory. Attempts to prepare identical copolymers using macromol. modification were unsuccessful and yielded insol. materials upon reaction of the functionalized copolymers with titanium(IV) isopropoxide.

## CC 35-6 (Chemistry of Synthetic High Polymers)

ST radical polymn vinyl titanate styrene

IT Glass transition temperature

## Polymerization

(preparation of soluble, linear titanium-containing copolymers by the free-radical

copolymn. of vinyl titanate monomers with styrene)

IT 3087-37-4, Tetrapropoxytitanium

RL: RCT (Reactant); RACT (Reactant or reagent)

(attempted modification of methacrylate-styrene copolymer by

IT 26010-51-5P, 2-Hydroxyethyl methacrylate-styrene copolymer

2-Acetoacetoxyethyl methacrylate-styrene copolymer

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation by synthesis).

IT 172296-27 2P (preparation and attempted modification with tetrapropoxytitanium)

11 172906-27-3P 299957-42-9P  
RI: SBN (Savannah)

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation and characterization of solid).

IT 172906-27-3B (preparation and characterization of soluble)

11 172906-27-3P  
RL: SPN (Sup)

RL: SPN (synthetic preparation); PREP (Preparation) (preparation and characterization of adduct)

BN (preparation and characterization of soluble) 172906-27-3 HCARIUS

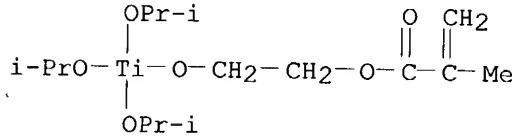
RN 172908-27-3 HCAPLUS  
CN Titanium (2-hydroxy-

CN Titanium, (2-hydroxyethyl 2-methyl-2-propenoato)tris(2-propanolato)-, (T-4)-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 172906-24-0

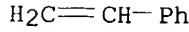
CMF C15 H30 06 Ti



CM 2

CRN 100-42-5

CMF C8 H8



RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 13 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1998:163380 HCAPLUS  
 DN 128:181679  
 TI Methacrylic resin compositions for use in safe marine antifouling coatings  
 IN Vanhoye, Didier; Camail, Michel; Margaillan, Andre; Vernet, Jean-Louis; Humbert, Marie  
 PA Elf Atochem S.A., Fr.  
 SO Eur. Pat. Appl., 11 pp.  
 CODEN: EPXXDW

DT Patent  
 LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 825203	A1	19980225	EP 1997-401909	19970808
	EP 825203	B1	20020220		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	FR 2752581	A1	19980227	FR 1996-10374	19960822
	FR 2752581	B1	19981030		
	AT 213501	E	20020315	AT 1997-401909	19970808
	ES 2171857	T3	20020916	ES 1997-401909	19970808
	SG 71038	A1	20000321	SG 1997-2946	19970815
	US 5919840	A	19990706	US 1997-915799	19970821
	CA 2215572	AA	19980222	CA 1997-2215572	19970822
	CA 2215572	C	20021015		
	JP 10087676	A2	19980407	JP 1997-241910	19970822
	JP 3265240	B2	20020311		
	CN 1178229	A	19980408	CN 1997-121368	19970822
	CN 1105746	B	20030416		
	TW 380153	B	20000121	TW 1997-86114536	19971004
PRAI	FR 1996-10374	A	19960822		

AB The compns. contain gel-free organic-soluble methacrylic acid polymers which have been esterified with Ti(OR)<sub>4</sub> (R = Et, iso-Pr, Bu, tert-Bu, 2-ethylhexyl, tert-amyl group) at the stoichiometric ratio of Ti/COOH >1. Thus, mixing Elvacite 2550 (Bu methacrylate-methacrylic acid-Me methacrylate 4:14:82 mol/mol copolymer) dissolved in PhMe 20 with Ti(OBu)<sub>4</sub> 3.62 g gave a solution containing modified polymer with methacrylic acid-Ti(OBu)<sub>3</sub> unit content 3.2, Bu methacrylate unit content 66.1 and Me methacrylate unit content 11.3 mol%, and free Ti(OBu)<sub>4</sub> 19.4 mol%.

IC ICM C08F008-42  
 ICS C09D005-16

CC 42-7 (Coatings, Inks, and Related Products)

ST org sol methacrylate resin titanate ester; solvent sol methacrylate resin titanate ester; gel free noncrosslinking methacrylate resin titanate; marine antifouling coating methacrylate resin titanate

IT Coating materials  
 (antifouling; methacrylic resin compns. for safe marine antifouling coatings)

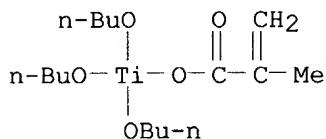
IT 28262-63-7DP, Butyl methacrylate-methacrylic acid-methyl methacrylate copolymer, titanium complexes  
 RL: BUU (Biological use, unclassified); IMF (Industrial manufacture); TEM (Technical or engineered material use); BIOL (Biological study); PREP

- (Preparation); USES (Uses)  
 (Elvacite 2550; methacrylic resin compns. for safe marine antifouling coatings)
- IT 203340-57-2DP, Elvacite 2669, titanium complexes  
 RL: BUU (Biological use, unclassified); IMF (Industrial manufacture); TEM (Technical or engineered material use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (Elvacite 2669; methacrylic resin compns. for safe marine antifouling coatings)
- IT 203116-03-4P, Methacrylic acid tributoxytitanate-methyl methacrylate copolymer 203174-88-3P, Methacrylic acid tri(2-ethylhexoxytitanate)-methyl methacrylate copolymer  
 RL: BUU (Biological use, unclassified); IMF (Industrial manufacture); TEM (Technical or engineered material use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (methacrylic resin compns. for safe marine antifouling coatings )
- IT 7440-32-6D, Titanium, complexes with acrylic polymers, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (modifiers for manufacture of marine antifouling coatings)
- IT 203116-03-4P, Methacrylic acid tributoxytitanate-methyl methacrylate copolymer 203174-88-3P, Methacrylic acid tri(2-ethylhexoxytitanate)-methyl methacrylate copolymer  
 RL: BUU (Biological use, unclassified); IMF (Industrial manufacture); TEM (Technical or engineered material use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (methacrylic resin compns. for safe marine antifouling coatings )
- RN 203116-03-4 HCAPLUS
- CN Titanium, tributoxy(2-methyl-2-propenoato- $\kappa$ O)-, (T-4)-, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 17399-93-8

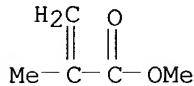
CMF C16 H32 O5 Ti



CM 2

CRN 80-62-6

CMF C5 H8 O2

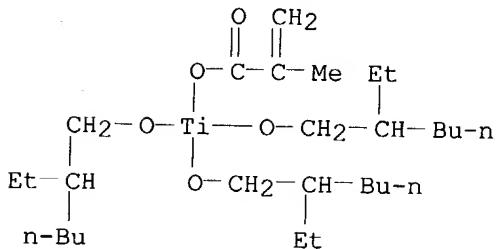


RN 203174-88-3 HCAPLUS

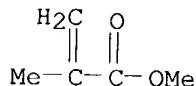
CN Titanium, tris(2-ethyl-1-hexanolato)(2-methyl-2-propenoato- $\kappa$ O)-,

(T-4)-, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 203174-87-2  
CMF C28 H56 O5 Ti

CM 2

CRN 80-62-6  
CMF C5 H8 O2RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 14 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1997:273649 HCAPLUS  
 DN 126:252530  
 TI Heat-resistant printing ink compositions with good discoloration prevention and viscosity stability  
 IN Inoe, Takahiko; Sakuma, Kazuo  
 PA Sakata Inks, Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 09031385	A2	19970204	JP 1995-183039	19950719
PRAI JP 1995-183039		19950719		
OS MARPAT 126:252530				
AB Title compns. contain pigments, OH-containing resins, organic solvents, and $\geq 1$ Ti(OR1)(OR2)(OR3)(OR4) and (R50)(R60)(R70)Ti1...cn tdot...OTin(OR2n+4)(OR2n+5)(OR2n+6) (R's = C3-18 alkyl, acyl; $\geq (2n + 2)/4$ of R's are C17H35CO; n = 1-10) as crosslinking agents. Thus, an ink comprising triisopropoxytitanium monostearate 0.1, Tipaque R 900 (TiO2) 30, Rheomide S 2600 (polyamide) 16, HIG 1/2 4, and a 60:30:10 mixture of PhNe/Me2CHOH/EtOAc 49.9 parts was applied on a polypropylene film to show transfer temperature 100-120°, good viscosity				

IC stability, and no yellowing after 7 days at 40°.  
ICM C09D011-02  
ICS C09D011-08; C09D011-10  
CC 42-12 (**Coatings, Inks, and Related Products**)  
ST titanium stearate crosslinking agent printing ink; nitrocellulose polyamide titanium stearate printing ink; titanoxane stearate crosslinking agent ink; heat resistance printing ink; storage stability printing ink; discoloration prevention polyamide cellulose titanoxane ink  
IT Titanoxanes  
RL: MOA (Modifier or additive use); USES (Uses)  
(crosslinking agents, polyamides and cellulose derivs.; heat-resistant and storage-stable cellulose-polyamide printing ink compns. containing titanium stearates crosslinking agents)  
IT Crosslinking agents  
Discoloration prevention  
(heat-resistant and storage-stable cellulose-polyamide printing ink compns. containing titanium stearates crosslinking agents)  
IT Inks  
(printing; heat-resistant and storage-stable cellulose-polyamide printing ink compns. containing titanium stearates crosslinking agents)  
IT 17283-75-9, Triisopropoxytitanium monostearate 32670-03-4,  
Diisopropoxytitanium distearate 114068-94-9 188425-83-4 188425-87-8  
188425-90-3 188425-92-5  
RL: MOA (Modifier or additive use); USES (Uses)  
(crosslinking agents, polyamides and cellulose derivs.; heat-resistant and storage-stable cellulose-polyamide printing ink compns. containing titanium stearates crosslinking agents)  
IT 188570-57-2P 188570-58-3P 188570-59-4P  
188570-60-7P 188626-80-4P 188651-99-2P  
RL: **IMF (Industrial manufacture)**; PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(heat-resistant and storage-stable cellulose-polyamide printing ink compns. containing titanium stearates crosslinking agents)  
IT 188570-57-2P 188570-58-3P 188570-59-4P  
188570-60-7P  
RL: **IMF (Industrial manufacture)**; PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(heat-resistant and storage-stable cellulose-polyamide printing ink compns. containing titanium stearates crosslinking agents)  
RN 188570-57-2 HCPLUS  
CN Cellulose, nitrate, polymer with (T-4)-(octadecanoato-κO)tris(2-propanolato)titanium and Rheomide S 2600 (9CI) (CA INDEX NAME)

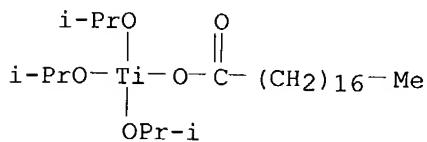
CM 1

CRN 188494-81-7  
CMF Unspecified  
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 17283-75-9  
CMF C27 H56 O5 Ti



CM 3

CRN 9004-70-0  
CMF H N O3 . x Unspecified

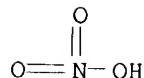
CM 4

CRN 9004-34-6  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 7697-37-2  
CMF H N O3



RN 188570-58-3 HCAPLUS  
CN Cellulose, nitrate, polymer with (T-4)-bis(octadecanoato- $\kappa$ O)bis(2-propanolato)titanium and Rheomide S 2600 (9CI) (CA INDEX NAME)

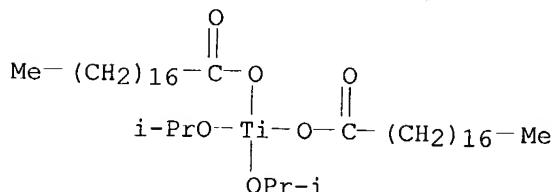
CM 1

CRN 188494-81-7  
CMF Unspecified  
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 32670-03-4  
CMF C42 H84 O6 Ti



CM 3

CRN 9004-70-0  
CMF H N O3 . x Unspecified

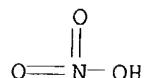
CM 4

CRN 9004-34-6  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 7697-37-2  
CMF H N O3



RN 188570-59-4 HCAPLUS  
CN Cellulose, nitrate, polymer with bis(octadecanoato- $\kappa$ O)- $\mu$ -oxotetrakis(2-propanolato)dittitanium and Rheomide S 2600 (9CI) (CA INDEX NAME)

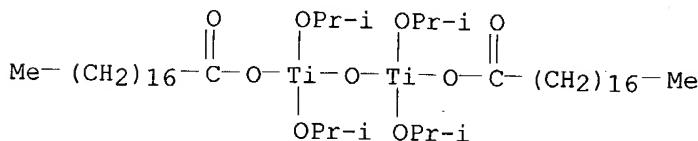
CM 1

CRN 188494-81-7  
CMF Unspecified  
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 188425-83-4  
CMF C48 H98 O9 Ti2



CM 3

CRN 9004-70-0  
CMF H N O3 . x Unspecified

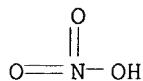
CM 4

CRN 9004-34-6  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 7697-37-2  
CMF H N O3



RN 188570-60-7 HCPLUS  
CN Cellulose, nitrate, polymer with Rheomide S 2600 and  
tetrakis(octadecanoato- $\kappa$ O)- $\mu$ -oxobis(2-propanolato)dititanium  
(9CI) (CA INDEX NAME)

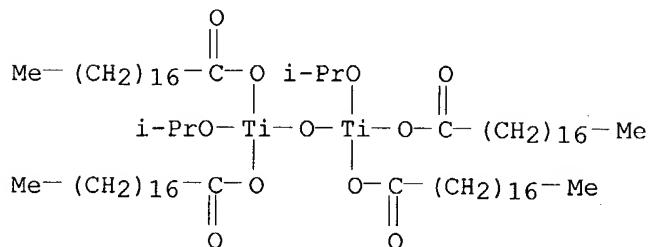
CM 1

CRN 188494-81-7  
CMF Unspecified  
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 188425-90-3  
CMF C78 H154 O11 Ti2



CM 3

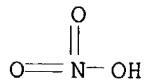
CRN 9004-70-0  
CMF H N O3 . x Unspecified

CM 4

CRN 9004-34-6  
CMF Unspecified  
CCI PMS, MAN

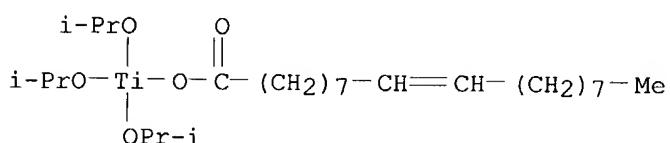
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 7697-37-2  
CMF H N O3

L34 ANSWER 15 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1996:667226 HCPLUS  
 DN 125:329549  
 TI Molecules with polymerizable ligands as precursors to porous doped materials  
 AU Hubert-Pfalzgraf, L. G.; Pajot, N.; Papiernik, R.; Parraud, S.  
 CS Univ. Nice-Sophia-Antipolis, Nice, 06108, Fr.  
 SO Materials Research Society Symposium Proceedings (1996), 435(Better Ceramics through Chemistry VII: Organic/Inorganic Hybrid Materials), 137-142  
 CODEN: MRSPDH; ISSN: 0272-9172  
 PB Materials Research Society  
 DT Journal  
 LA English  
 AB Titanium and aluminum alkoxide derivs. with polymerizable ligands such as 2-(methacryloyloxy)ethylacetate, oleic acid and geraniol were obtained. The various compds. have been characterized by FT-IR and 1H-NMR. Copolymn. with styrene and divinylbenzene affords porous doped organic materials which have been characterized by SEM, elemental anal., d. measurements.  
 CC 35-3 (Chemistry of Synthetic High Polymers)  
 ST divinylbenzene styrene alkoxide compd polymn; methacryloyloxyethylacetate titanium aluminum alkoxide compd prepns; oleic titanium alkoxide compd prepns polymn; geraniol titanium alkoxide compd prepns polymn; hydroxyethylmethacrylate titanium alkoxide compd prepns polymn  
 IT Polymer morphology  
     (preparation of divinylbenzene-styrene copolymer porous materials with double-bond-containing polymerizable ligands as precursors)  
 IT 183852-72-4P 183852-74-6P 183852-76-8P  
 183852-78-0P 183852-81-5P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
     (preparation of divinylbenzene-styrene copolymer porous materials with double-bond-containing polymerizable ligands as precursors)  
 IT 106-24-1, Geraniol 112-80-1, 9-Octadecenoic acid (Z)-, reactions 868-77-9, 2-Hydroxyethylmethacrylate 3087-37-4, Tetra(propoxy)titanium 4073-85-2, Tri(propoxy)aluminum 21282-97-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
     (preparation of divinylbenzene-styrene copolymer porous materials with double-bond-containing polymerizable ligands as precursors)  
 IT 31775-33-4P 183852-68-8P 183852-69-9P 183852-70-2P 183852-71-3P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
     (preparation of divinylbenzene-styrene copolymer porous materials with

double-bond-containing polymerizable ligands as precursors)  
IT 183852-72-4P 183852-74-6P 183852-76-8P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP  
(Preparation)  
(preparation of divinylbenzene-styrene copolymer porous materials with  
double-bond-containing polymerizable ligands as precursors)  
RN 183852-72-4 HCPLUS  
CN Titanium, (9-octadecenoato-O)tris(2-propanolato)-, [T-4-(Z)]-, polymer  
with diethenylbenzene and ethenylbenzene (9CI) (CA INDEX NAME)  
CM 1  
CRN 31775-33-4  
CMF C27 H54 O5 Ti



CM 2

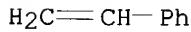
CRN 1321-74-0  
CMF C10 H10  
CCI IDS



2 [ D1- CH=CH<sub>2</sub> ]

CM 3

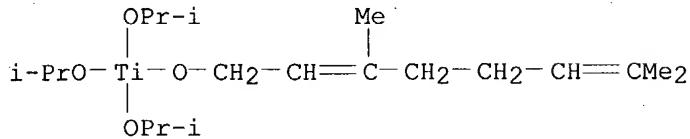
CRN 100-42-5  
CMF C8 H8



RN 183852-74-6 HCPLUS  
CN Titanium, (3,7-dimethyl-2,6-octadien-1-olato)tris(2-propanolato)-,  
[T-4-(E)]-, polymer with diethenylbenzene and ethenylbenzene (9CI) (CA  
INDEX NAME)

CM 1

CRN 183852-68-8  
 CMF C19 H38 O4 Ti



CM 2

CRN 1321-74-0  
 CMF C10 H10  
 CCI IDS



2 [ D1- CH=CH<sub>2</sub> ]

CM 3

CRN 100-42-5  
 CMF C8 H8

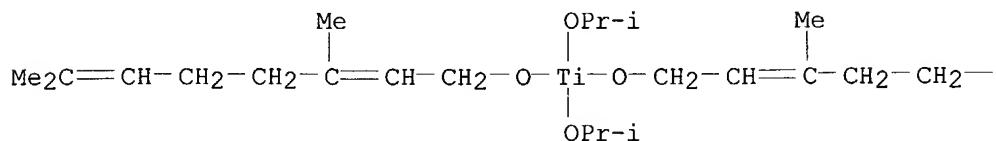
H<sub>2</sub>C=CH-Ph

RN 183852-76-8 HCPLUS  
 CN Titanium, bis(3,7-dimethyl-2,6-octadien-1-olato)bis(2-propanolato)-,  
 [T-4-(E), (E)]-, polymer with diethenylbenzene and ethenylbenzene (9CI)  
 (CA INDEX NAME)

CM 1

CRN 183852-69-9  
 CMF C26 H48 O4 Ti

PAGE 1-A

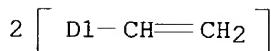


PAGE 1-B



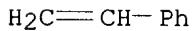
CM 2

CRN 1321-74-0  
 CMF C10 H10  
 CCI IDS



CM 3

CRN 100-42-5  
 CMF C8 H8



L34 ANSWER 16 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1995:1006881 HCPLUS  
 DN 124:88933  
 TI Polymers with high refractive index from tetravalent metal-containing (meth)acrylate esters  
 IN Fukai, Tomohiro; Nagai, Yasuhiko; Nakayama, Yasushi  
 PA Sekisui Chemical Co. Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 07268024	A2	19951017	JP 1994-58726	19940329
PRAI JP 1994-58726		19940329		
AB Polymers containing repeating units $\text{CR}_1[\text{CO}_2\text{CH}_2\text{CH}_2\text{A}(\text{OR}_2)^x\text{R}_3\text{y}]^n\text{CH}_2$ ( $\text{R}_1 = \text{H, Me}$ ; $\text{R}_2 = \text{C1-4 alkyl}$ ; $\text{R}_3 = \text{alkyl, Ph, naphthyl}$ ; $x = 1-3$ , $y = 0-2$ , $x + y = 3$ ; $\text{A} = \text{Ti, Zr, Ge}$ ) are subjected to hydrolysis and condensation to give transparent products which have $n \geq 1.70$ and are useful as optical materials, lenses, films, etc. A polymer prepared from				

$\text{H}_2\text{C:CM}\text{eCO}_2\text{CH}_2\text{CH}_2\text{Ti(OCHMe}_2)_3$  in the presence of AIBN was applied to a PET film and subjected to hydrolysis and condensation to give a product having  $n = 1.73$  and good adhesion (MIL C 675A).

IC ICM C08F008-12  
ICS C08G079-00

CC 37-5 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38

ST titanate deriv methacrylate polymer refractive index; germanate deriv methacrylate polymer refractive index; zirconate deriv methacrylate polymer refractive index; refractive index polymer methacrylate metal deriv; optical material polymer methacrylate metal deriv; lens polymer metal deriv methacrylate; polymn metal deriv methacrylate optical material; alkoxide metal methacrylate polymer refractive index

## IT Coating materials

## Optical materials

### **Transparent materials**

(polymers of tetravalent metal-containing methacrylate esters having high refractive index)

## IT Refractive index and Optical refraction

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(tetravalent metal-containing methacrylate esters for polymers with high)

## IT Crosslinking

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(hydrolytic, of polymers of tetravalent metal-containing methacrylate esters having high refractive index)

IT 25038-59-9, PET (polyester), miscellaneous

RL: MSC (Miscellaneous)  
(film; laminate with polymer of tetravalent metal-containing methacrylate ester having high refractive index)

IT 172906-25-1P 172906-26-2P 172906-27-3P

**172906-29-5P 172906-31-9P**

RL: IMF (Industrial manufacture); TEM (Technic

(preparation for use as optical materials with high refractive index)

IT 172906-25-1P 172906-26-2P 172906-27-3P

172906-31-9P

RL: IMF (Industrial manufacture); TEM (Technic  
al equipment); BPER (Banks and insurance); USEG (Utilities)

(preparation for use as optical materials with high refractive index)

RN 172906-25-1 HCAPLUS  
CN Titanium [3] (b) (d) (e)

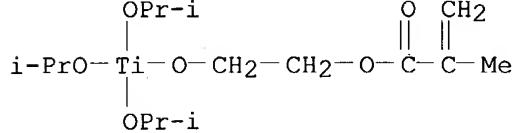
CN Titanium, [2-(hydroxy- $\kappa$ O)ethyl 2-methyl-2-propenoato]tris(2-propanoate) (T<sub>4</sub>O)<sub>3</sub> homopolymer (8G1) (CA INDEX NAME)

propanoato)-, (1-4)-, homopolymer (9CT) (CA INDEX NAME)

CM 1

CRN 172906-24-0  
CME C1E 1130 06

CMF C15 H30 06 Ti

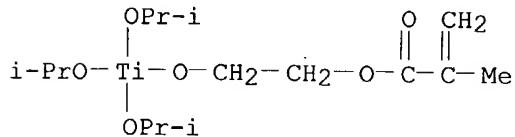


RN 172906-26-2 HCAPLUS

CN Titanium, (2-hydroxyethyl 2-methyl-2-propenoato)tris(2-propanolato)-, (T-4)-, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

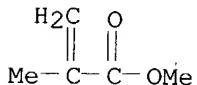
CM 1

CRN 172906-24-0  
CMF C15 H30 O6 Ti



CM 2

CRN 80-62-6  
CMF C5 H8 O2

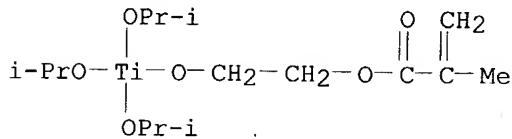


RN 172906-27-3 HCAPLUS

CN Titanium, (2-hydroxyethyl 2-methyl-2-propenoato)tris(2-propanolato)-, (T-4)-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

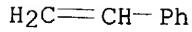
CM 1

CRN 172906-24-0  
CMF C15 H30 O6 Ti



CM 2

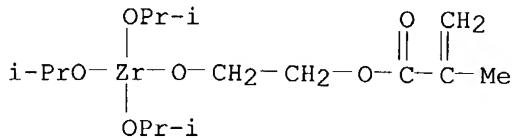
CRN 100-42-5  
CMF C8 H8



RN 172906-31-9 HCAPLUS

CN Zirconium, tris(1-methylethoxy)[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 172906-30-8  
CMF C15 H30 O6 Zr

L34 ANSWER 17 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1995:750565 HCAPLUS

DN 123:146871

TI Specific metal compound-containing compositions for **coatings** or inks

IN Yasuda, Naoki; Tanaka, Sukeyuki; Zama, Taku

PA Ajinomoto KK, Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07062279	A2	19950307	JP 1993-210273	19930825
PRAI	JP 1993-210273		19930825		
OS	MARPAT 123:146871				

AB Title compns., giving films with good flexibility and stiffness, contain 0.01-20% (based on inorg. fillers and pigments) unsatd. side chain-containing Zr or Al compds. A Polymal 9305Z (polyester) composition containing TiO<sub>2</sub> 10, CaCO<sub>3</sub>

20, a catalyst 0.7, and Zr(OPr)<sub>2</sub>Q<sub>2</sub> (Q = polyoxyethylene monomethacrylate monophthalate) 0.6 part was spread on a steel plate and baked at 130° for 30 min to form a film good adhesion.

IC ICM C09D007-12

ICS C08K003-00; C08K009-04; C09D011-02

CC 42-10 (**Coatings**, Inks, and Related Products)ST polyoxyethylene methacrylate phthalate zirconate contg **coating**; flexibility **coating** unsatd polyoxyethylene zirconate; stiffness **coating** unsatd polyoxyethylene aluminate

IT Acrylic polymers, uses

Polyesters, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(unsatd. side chain-containing zirconate- or aluminate-containing **coatings** with good adhesion and flexibility and stiffness)

IT Inks

(unsatd. side chain-containing zirconate- or aluminate-containing resin compns.

with good adhesion and flexibility and stiffness)

IT **Coating** materials

(flexible, unsatd. side chain-containing zirconate- or aluminate-containing resin compns. with good adhesion and flexibility and stiffness)

IT 555-31-7, Triisopropyl aluminate 23519-77-9, Tetrapropyl zirconate

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction with (poly)ethylene glycol mono(meth)acrylate monoesters)

IT 27697-00-3, Ethylene glycol monomethacrylate monophthalate 58868-83-0  
75836-16-7 127079-01-0 155914-99-1 166744-39-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with alkyl zirconates or aluminates)

IT 138341-67-0, Polymal 9305Z  
RL: TEM (Technical or engineered material use); USES (Uses)  
(unsatd. side chain-containing zirconate- or aluminate-containing  
coatings with good adhesion and flexibility and stiffness)

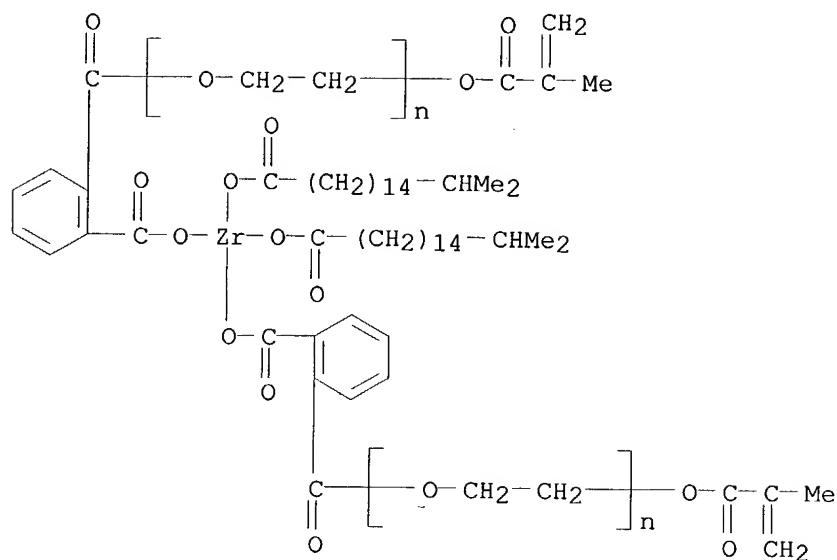
IT 9011-14-7, PMMA  
RL: TEM (Technical or engineered material use); USES (Uses)  
(unsatd. side chain-containing zirconate- or aluminate-containing compns.  
with  
good adhesion and flexibility and stiffness)

IT 166744-40-7P 166744-41-8P 166744-42-9P  
166744-43-0P 166744-44-1P 166744-45-2P  
166744-46-3P 166744-47-4P 166744-48-5P  
166744-49-6P 166744-50-9P 166744-51-0P 166744-52-1P  
166744-53-2P 166744-54-3P 166744-55-4P  
166744-56-5P 166744-57-6P 166744-58-7P  
166744-59-8P 166744-60-1P 166744-61-2P 166744-62-3P  
166744-64-5P 166744-65-6P 166744-66-7P  
RL: MOA (Modifier or additive use); SPN (Synthetic preparation);  
PREP (Preparation); USES (Uses)  
(unsatd. side chain-containing zirconate- or aluminate-containing resin  
compns.  
with good adhesion and flexibility and stiffness)

IT 166744-41-8P 166744-42-9P 166744-43-0P  
166744-44-1P 166744-45-2P 166744-46-3P  
166744-47-4P 166744-48-5P 166744-49-6P  
166744-50-9P 166744-54-3P 166744-55-4P  
166744-56-5P 166744-57-6P 166744-58-7P  
166744-59-8P 166744-65-6P 166744-66-7P  
RL: MOA (Modifier or additive use); SPN (Synthetic preparation);  
PREP (Preparation); USES (Uses)  
(unsatd. side chain-containing zirconate- or aluminate-containing resin  
compns.  
with good adhesion and flexibility and stiffness)

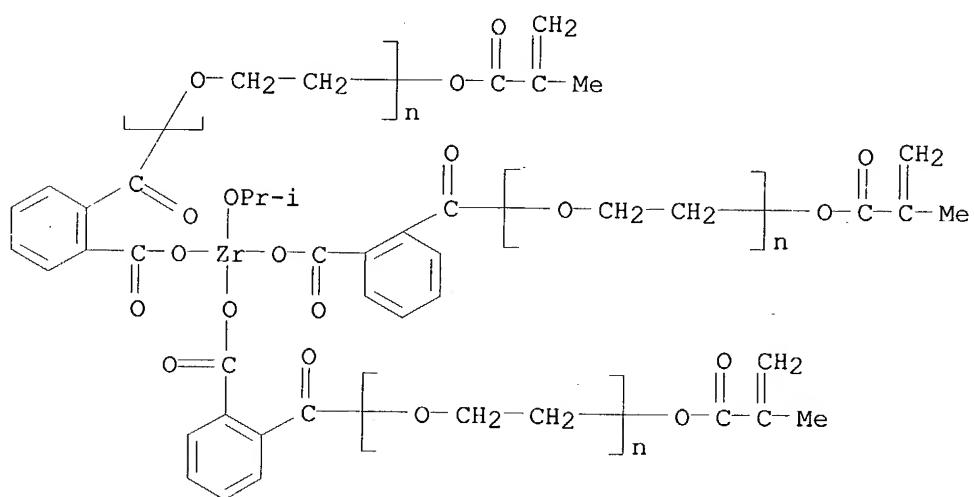
RN 166744-41-8 HCAPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]-, ester with (T-4)-bis(1,2-benzenedicarboxylato-O1)bis(16-methylheptadecanoato-O)zirconium (2:1) (9CI) (CA INDEX NAME)



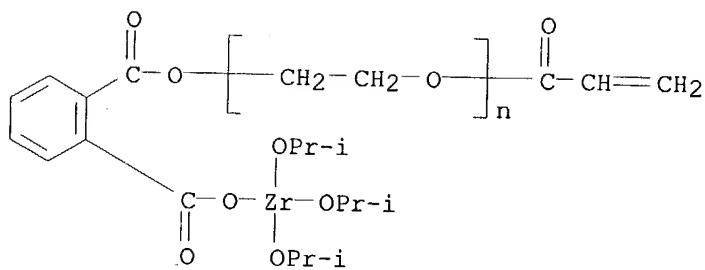
RN 166744-42-9 HCAPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]-, ester with (T-4)-tris(1,2-benzenedicarboxylato-O1)(2-propanolato)zirconium (3:1) (9CI) (CA INDEX NAME)



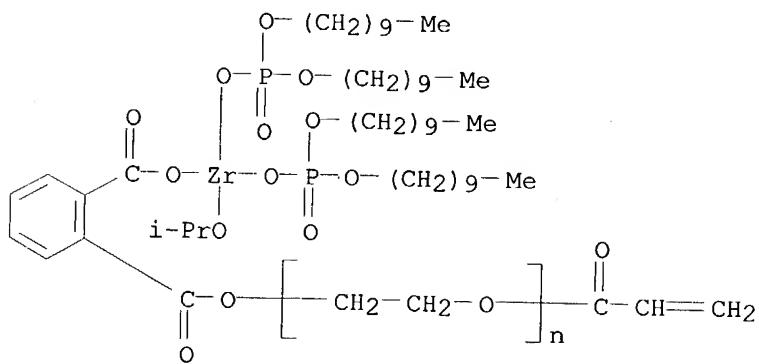
RN 166744-43-0 HCAPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -hydroxy-, ester with (T-4)-(1,2-benzenedicarboxylato- $\kappa$ O2)tris(2-propanolato)zirconium (1:1) (9CI) (CA INDEX NAME)



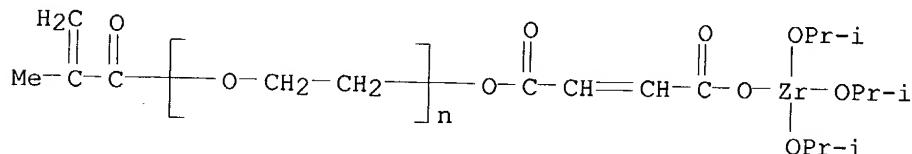
RN 166744-44-1 HCAPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -hydroxy-, ester with (T-4)-bis(1,2-benzenedicarboxylato- $\kappa$ O<sub>2</sub>)bis(didecyl phosphato-O'') (2-propanolato)zirconium (1:1) (9CI) (CA INDEX NAME)



RN 166744-45-2 HCAPLUS

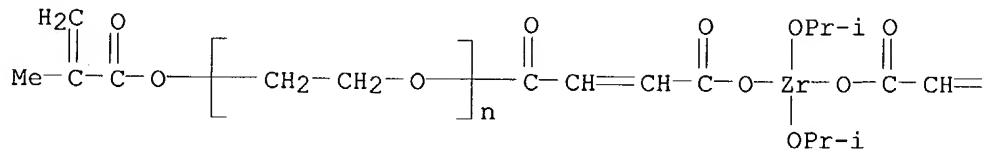
CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -hydroxy-, ester with (T-4)-(2-butenedioato-O)tris(2-propanolato)zirconium (1:1) (9CI) (CA INDEX NAME)



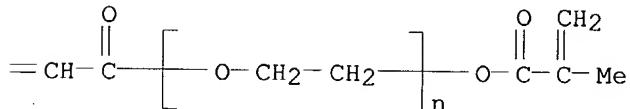
RN 166744-46-3 HCAPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]-, ester with (T-4)-bis(2-butenedioato-O)bis(2-propanolato)zirconium (2:1) (9CI) (CA INDEX NAME)

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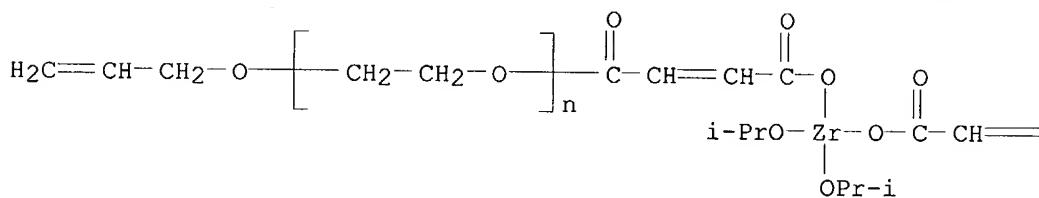
PAGE 1-B



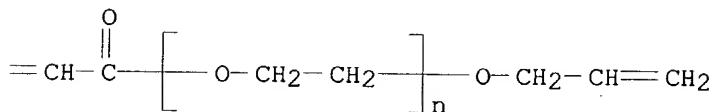
RN 166744-47-4 HCPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -(2-propenyloxy)-, ester  
with (T-4)-bis(2-butenedioato-O)bis(2-propanolato)zirconium (2:1) (9CI)  
(CA INDEX NAME)

PAGE 1-A

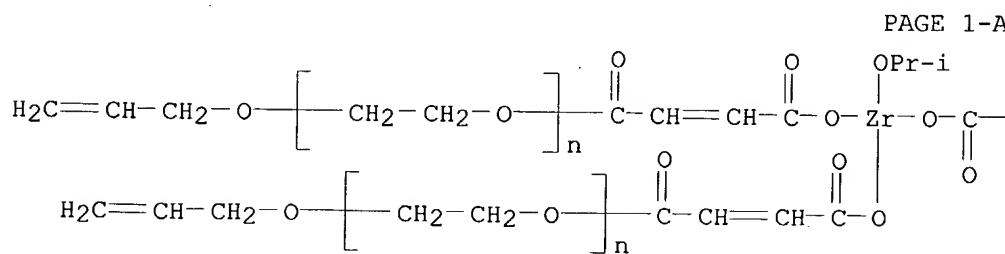


PAGE 1-B

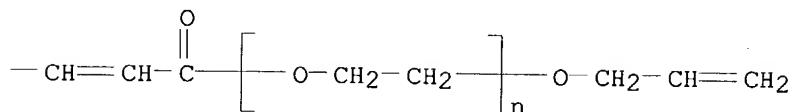


RN 166744-48-5 HCPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -(2-propenyloxy)-, ester  
with (T-4)-tris(2-butenedioato-O)(2-propanolato)zirconium (3:1) (9CI) (CA  
INDEX NAME)

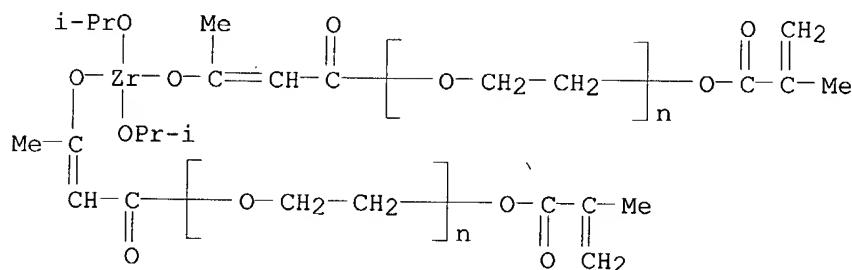


PAGE 1-B



RN 166744-49-6 HCPLUS

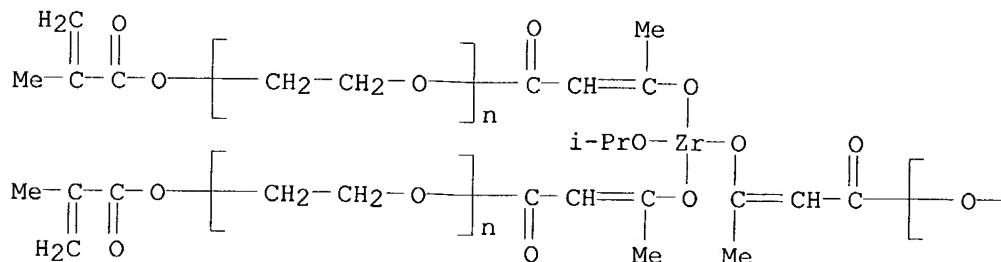
CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]-, ester with (T-4)-bis(3-hydroxy-2-butenoato-03)bis(2-propanolato)zirconium (2:1) (9CI) (CA INDEX NAME)



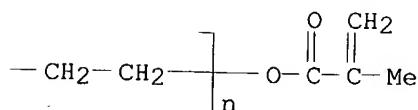
RN 166744-50-9 HCPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]-, ester with (T-4)-tris(3-hydroxy-2-butenoato-03) (2-propanolato)zirconium (3:1) (9CI) (CA INDEX NAME)

PAGE 1-A

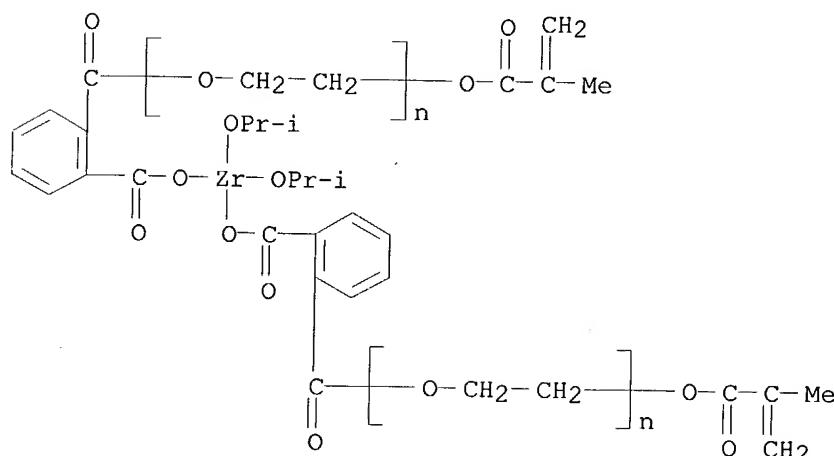


PAGE 1-B



RN 166744-54-3 HCAPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]-, ester with (T-4)-bis(1,2-benzenedicarboxylato- $\kappa$ O2)bis(2-propanolato)zirconium (2:1), polymer with  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)



RN 166744-55-4 HCAPLUS

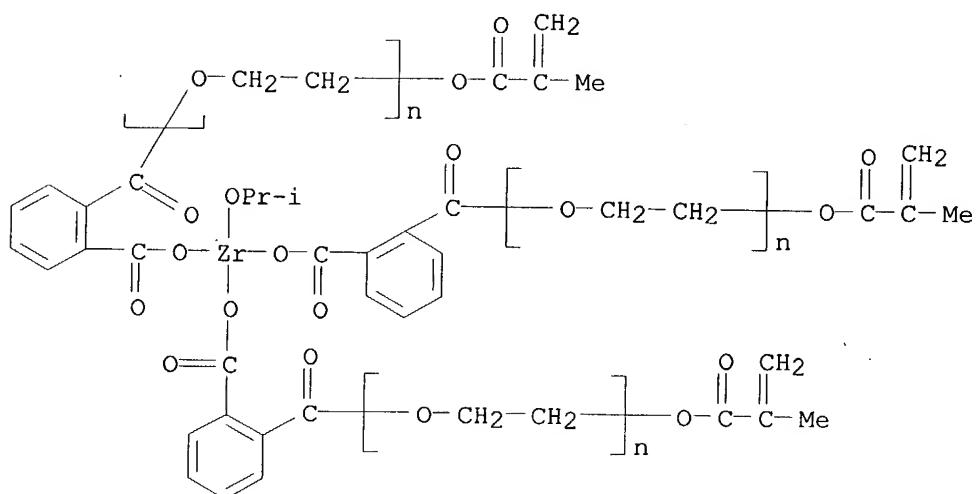
CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]-, ester with (T-4)-tris(1,2-benzenedicarboxylato- $\kappa$ O2)(2-propanolato)zirconium (3:1), polymer with  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 166744-42-9

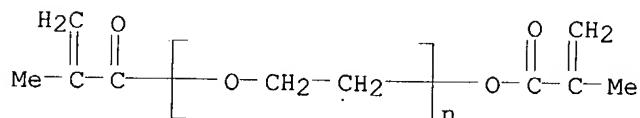
CMF (C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub> (C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub> (C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub> C<sub>39</sub>H<sub>34</sub>O<sub>16</sub>Zr

CCI PMS



CM 2

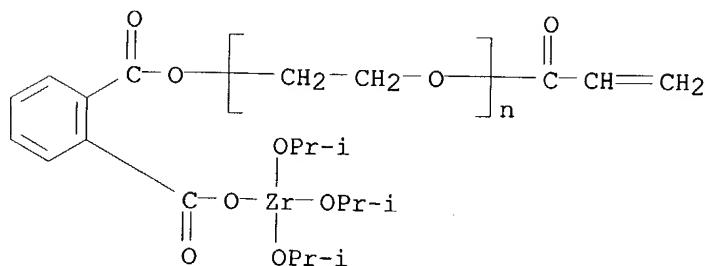
CRN 25852-47-5  
 CMF (C<sub>2</sub> H<sub>4</sub> O)<sub>n</sub> C<sub>8</sub> H<sub>10</sub> O<sub>3</sub>  
 CCI PMS



RN 166744-56-5 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 2-ethylhexyl ester, polymer with  
 $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) ester  
 with (T-4)-(1,2-benzenedicarboxylato- $\kappa$ O<sub>2</sub>)tris(2-  
 propanolato)zirconium (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 166744-43-0  
 CMF (C<sub>2</sub> H<sub>4</sub> O)<sub>n</sub> C<sub>20</sub> H<sub>28</sub> O<sub>8</sub> Zr  
 CCI PMS



CM 2

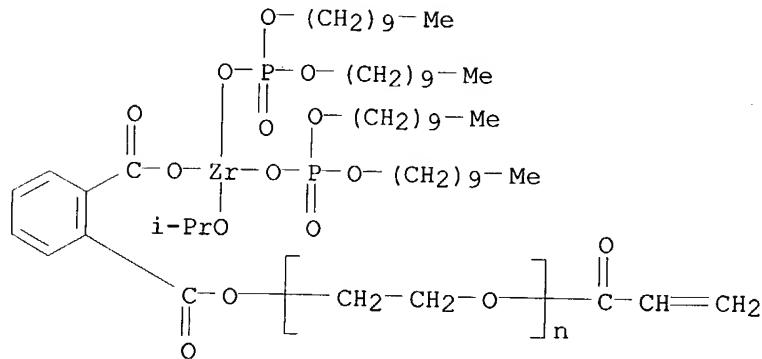
CRN 688-84-6  
CMF C12 H22 O2



RN 166744-57-6 HCPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-ethylhexyl ester, polymer with  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) ester with (T-4)-(1,2-benzenedicarboxylato- $\kappa$ O<sub>2</sub>)bis(didecyl phosphato-O') (2-propanolato)zirconium (1:1) (9CI) (CA INDEX NAME)

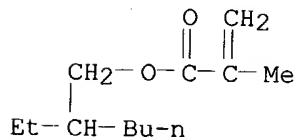
CM 1

CRN 166744-44-1  
CMF (C<sub>2</sub> H<sub>4</sub> O)<sub>n</sub> C<sub>54</sub> H<sub>98</sub> O<sub>14</sub> P<sub>2</sub> Zr  
CCI PMS



CM 2

CRN 688-84-6  
CMF C12 H22 O2



RN 166744-58-7 HCPLUS  
CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -

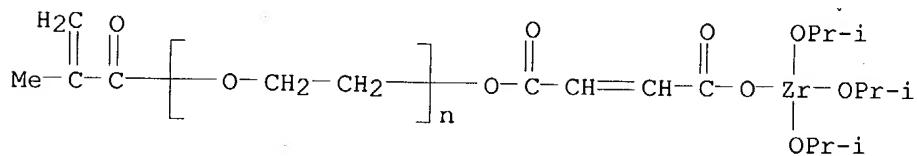
hydroxy-, ester with (T-4)-(2-butenedioato-O)tris(2-propanolato)zirconium (1:1), polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 166744-45-2

CMF (C<sub>2</sub> H<sub>4</sub> O)<sub>n</sub> C<sub>17</sub> H<sub>28</sub> O<sub>8</sub> Zr

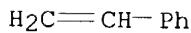
CCI PMS



CM 2

CRN 100-42-5

CMF C<sub>8</sub> H<sub>8</sub>



RN 166744-59-8 HCPLUS

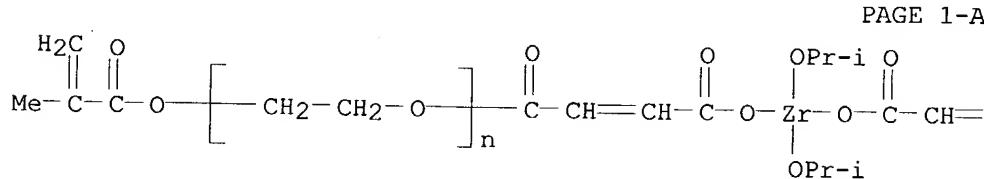
CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]-, ester with (T-4)-bis(2-butenedioato-O)bis(2-propanolato)zirconium (2:1), polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

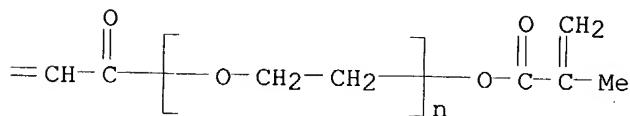
CRN 166744-46-3

CMF (C<sub>2</sub> H<sub>4</sub> O)<sub>n</sub> (C<sub>2</sub> H<sub>4</sub> O)<sub>n</sub> C<sub>22</sub> H<sub>28</sub> O<sub>12</sub> Zr

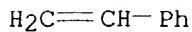
CCI PMS



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CM 2

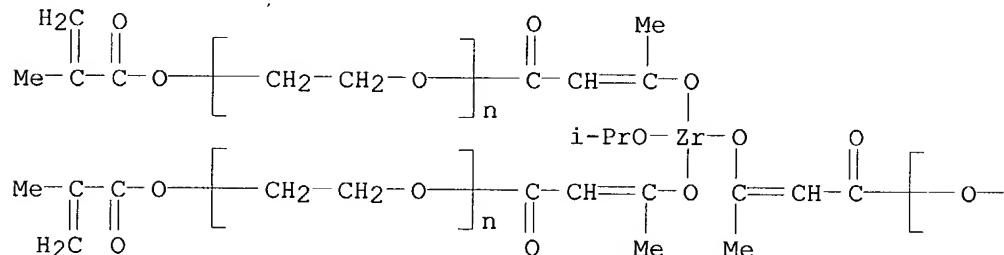
CRN 100-42-5  
CMF C8 H8

RN 166744-65-6 HCAPLUS  
 CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]-, ester with (T-4)-tris(3-hydroxy-2-butenoato-O3) (2-propanolato)zirconium (3:1), polymer with  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

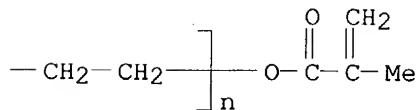
CM 1

CRN 166744-50-9  
 CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C27 H34 O13 Zr  
 CCI PMS

PAGE 1-A

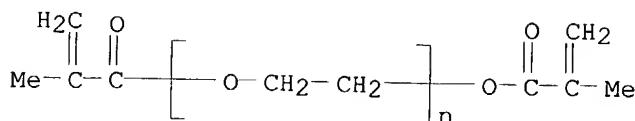


PAGE 1-B



CM 2

CRN 25852-47-5  
 CMF (C2 H4 O)n C8 H10 O3  
 CCI PMS



RN 166744-66-7 HCPLUS

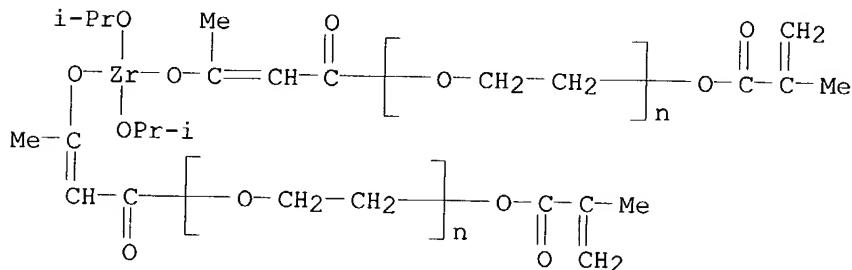
CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]-, ester with (T-4)-bis(3-hydroxy-2-butenoato-03)bis(2-propanolato)zirconium (2:1), polymer with  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -(2-methyl-1-oxo-2-propenyl)oxylpoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 166744-49-6

CMF (C<sub>2</sub> H<sub>4</sub> O)<sub>n</sub> C<sub>22</sub> H<sub>32</sub> O<sub>10</sub> Zr

CCI PMS

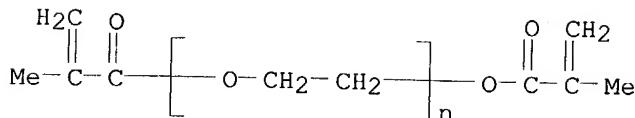


CM 2

CRN 25852-47-5

CMF (C<sub>2</sub> H<sub>4</sub> O)<sub>n</sub> C<sub>8</sub> H<sub>10</sub> O<sub>3</sub>

CCI PMS



L34 ANSWER 18 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
AN 1995:719339 HCPLUS

DN 123:97969

TI Radiation-sensitive resin composition

IN Ito, Toshio

PA Oki Electric Ind Co Ltd, Japan

SO Jpn. Kokai Tokyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 07134418	A2	19950523	JP 1993-281337	19931110
JP 2981094	B2	19991122		
PRAI JP 1993-281337		19931110		
GI				

ROM(OCMe<sub>3</sub>)OR

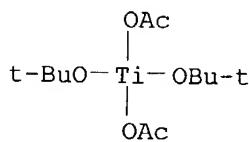
|

O

|

ROM(OCMe<sub>3</sub>)OR I

- AB A radiation-sensitive resin composition showing high sensitivity to radiations, good resistance to O<sub>2</sub>-RIE, and ease to stripping from a substrate comprises a polymer made from the monomers ROM(OCMe<sub>3</sub>) or I (M = Ge, Sn, or Ti; R = H, alkyl, tert-butoxycarbonyl, or arylmethyl) and a radiation-sensitive acid-forming agent.
- IC ICM G03F007-039  
ICS G03F007-004; H01L021-312
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST radiation resist organometallic compd acid generator
- IT Stannoxyanes  
Titanoxanes  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(preparation and use in preparing radiation-sensitive resists)
- IT Resists  
(radiation-sensitive, containing organometallic compds. and acid generators)
- IT 165811-87-0P **165811-89-2P**  
RL: RCT (Reactant); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; RACT (Reactant or reagent); USES (Uses)  
(preparation and polymerization in preparing radiation-sensitive resists)
- IT **165811-89-2P**  
RL: RCT (Reactant); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; RACT (Reactant or reagent); USES (Uses)  
(preparation and polymerization in preparing radiation-sensitive resists)
- RN 165811-89-2 HCPLUS
- CN Titanium, bis(acetato-O)bis(2-methyl-2-propanolato)-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)
- CM 1
- CRN 165811-88-1  
CMF C12 H24 O6 Ti



L34 ANSWER 19 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1995:272932 HCPLUS

DN 122:32937

TI Uniform organic polymer-titanium complex oxide composites

IN Hirano, Shinichi; Iyanagi, Koichi

PA Pola Kasei Kogyo Kk, Japan; Hirano Shinichi

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06157767	A2	19940607	JP 1993-12966	19930128
	JP 3183740	B2	20010709		
PRAI	JP 1992-258598	A	19920928		

AB The title composites are obtained from unsatd. acyloxy group-containing Ti alkoxides  $\text{Ti}(\text{OR})_4-n\text{Qn}$  ( $\text{R}$  = short-chain alkyl;  $\text{Q}$  = polymerizable unsatd. acyloxy;  $n = 1, 2$ ) and metal alkoxides that do not form perovskite crystal structure with Ti, by polymerization of the acyloxy group and cohydrolytic polycondensation of the alkoxides. Triisobutoxytitanium acrylate, tetra-Et silicate and acrylic acid were polymerized

IC ICM C08G079-00

ICS C08F030-04

CC 37-6 (Plastics Manufacture and Processing)  
 ST acrylic titanium oxide composite

IT 18327-72-5P 159969-38-7P 159969-42-3P 159969-43-4P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (manufacture and polymerization of)

IT 18328-57-9

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (manufacture and polymerization of)

IT 3087-36-3, Titanium tetraethoxide 7425-80-1, Titanium tetrakisobutoxide  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with acrylic acid)

IT 5593-70-4

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with crotonic acid)

IT 546-68-9

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with methacrylic acid)

IT 3724-65-0, 2-Butenoic acid

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with titanium tetrabutoxide)

IT 79-10-7, 2-Propenoic acid, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with titanium tetrakisobutoxide)

IT 79-41-4, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction with titanium tetraisopropoxide)

IT 159969-44-5P 159969-45-6P 159969-46-7P  
 159969-47-8P 159969-48-9P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (uniform organic polymer-titanium complex oxide composites)

IT 159969-44-5P 159969-45-6P 159969-46-7P  
 159969-47-8P 159969-48-9P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (uniform organic polymer-titanium complex oxide composites)

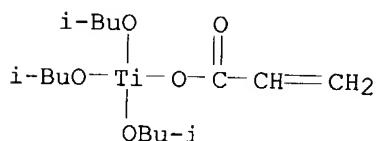
RN 159969-44-5 HCAPLUS

CN Titanium, tris(2-methyl-1-propanolato)(2-propenoato-O)-, (T-4)-, polymer with 2-propenoic acid and silicic acid (H<sub>4</sub>SiO<sub>4</sub>) tetraethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 159969-42-3

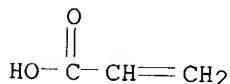
CMF C15 H30 O5 Ti



CM 2

CRN 79-10-7

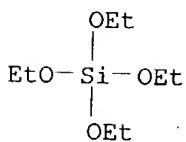
CMF C3 H4 O2



CM 3

CRN 78-10-4

CMF C8 H20 O4 Si

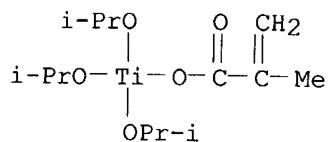


RN 159969-45-6 HCAPLUS

CN Titanium, (2-methyl-2-propenoato-O)tris(2-propanolato)-, (T-4)-, polymer with methyl 2-methyl-2-propenoate and 2-propanol zirconium(4+) salt (9CI) (CA INDEX NAME)

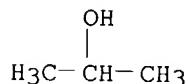
CM 1

CRN 18327-72-5  
CMF C13 H26 O5 Ti



CM 2

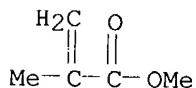
CRN 2171-98-4  
CMF C3 H8 O . 1/4 Zr



●1/4 Zr(IV)

CM 3

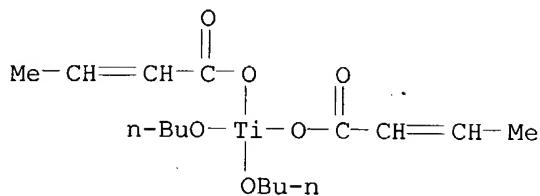
CRN 80-62-6  
CMF C5 H8 O2



RN 159969-46-7 HCAPLUS  
CN Titanium, bis(2-butenato-O)dibutoxy-, (T-4)-, polymer with 2-butanol aluminum salt (9CI) (CA INDEX NAME)

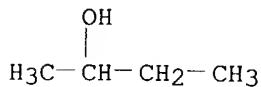
CM 1

CRN 159969-36-5  
CMF C16 H28 O6 Ti



CM 2

CRN 2269-22-9  
CMF C4 H10 O . 1/3 Al

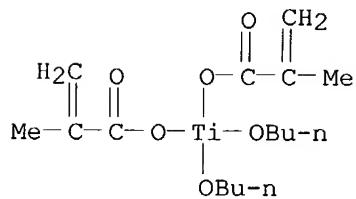


● 1/3 Al

RN 159969-47-8 HCPLUS  
CN Titanium, dibutoxybis(2-methyl-2-propenoato-O)-, (T-4)-, polymer with  
1-butanol zinc salt and ethanol titanium(4+) salt (9CI) (CA INDEX NAME)

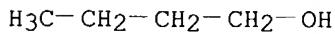
CM 1

CRN 18328-57-9  
CMF C16 H28 O6 Ti



CM 2

CRN 13422-22-5  
CMF C4 H10 O . 1/2 Zn



● 1/2 Zn

CM 3

CRN 3087-36-3  
CMF C2 H6 O . 1/4 Ti

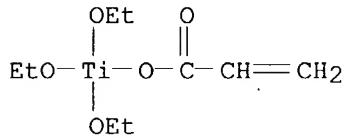


● 1/4 Ti(IV)

RN 159969-48-9 HCAPLUS  
CN Titanium, triethoxy(2-propenoato-O)-, (T-4)-, polymer with ethenylbenzene,  
2-methyl-1-propanol aluminum salt and silicic acid (H4SiO4) tetraethyl  
ester (9CI) (CA INDEX NAME)

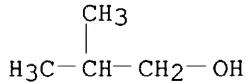
CM 1

CRN 159969-38-7  
CMF C9 H18 O5 Ti



CM 2

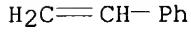
CRN 3453-79-0  
CMF C4 H10 O . 1/3 Al



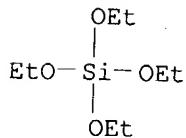
● 1/3 Al

CM 3

CRN 100-42-5  
CMF C8 H8



CM 4

CRN 78-10-4  
CMF C8 H20 O4 Si

L34 ANSWER 20 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1995:272931 HCAPLUS

DN 122:32936

TI Uniform organic polymer-titanium oxide composites

IN Hirano, Shinichi; Iyanagi, Koichi

PA Pola Kasei Kogyo Kk, Japan; Hirano Shinichi

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06157648	A2	19940607	JP 1993-12965	19930128
	JP 3129355	B2	20010129		
PRAI	JP 1992-258597	A	19920928		
AB	The title composites are obtained from unsatd. acyloxy group-containing Ti alkoxides $\text{Ti}(\text{OR})_4-n\text{Q}_n$ ( $\text{R}$ = short-chain alkyl; $\text{Q}$ = polymerizable unsatd. acyloxy; $n = 1, 2$ ) and Ti tetraalkoxides by polymerization of the acyloxy group and cohydrolytic polycondensation of the alkoxides. Triisopropoxytitanium methacrylate and Ti tetraisopropoxide were polymerized				
IC	ICM C08F008-42				
ICA	ICS A61K007-40; C01G023-04				
CC	37-6 (Plastics Manufacture and Processing)				
ST	acrylic titanium oxide composite				
IT	Titanoxanes				
	RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (manufacture of organic polymer composites of)				
IT	18327-72-5P 159969-36-5P 159969-38-7P 159969-40-1P				
	RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (manufacture and polymerization of)				
IT	3087-36-3, Titanium tetraethoxide 7425-80-1, Titanium tetraisobutoxide				
	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction with acrylic acid)				
IT	5593-70-4				
	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction with crotonic acid)				
IT	546-68-9				
	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction with methacrylic acid)				
IT	3724-65-0, 2-Butenoic acid				
	RL: RCT (Reactant); RACT (Reactant or reagent)				

IT 79-10-7, 2-Propenoic acid, reactions  
 (reaction with titanium tetrabutoxide)  
 RL: RCT (Reactant); RACT (Reactant or reagent)

IT 79-41-4, reactions  
 (reaction with titanium tetraethoxide)  
 RL: RCT (Reactant); RACT (Reactant or reagent)

IT 159969-35-4P 159969-37-6P 159969-39-8P  
 159969-41-2P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (uniform organic polymer-titanium oxide composites)

IT 159969-35-4P 159969-37-6P 159969-39-8P  
 159969-41-2P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (uniform organic polymer-titanium oxide composites)

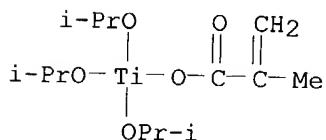
RN 159969-35-4 HCPLUS

CN Titanium, (2-methyl-2-propenoato-O)tris(2-propanolato)-, (T-4)-, polymer with 2-propanol titanium(4+) salt (9CI) (CA INDEX NAME)

CM 1

CRN 18327-72-5

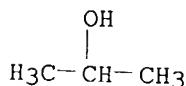
CMF C13 H26 O5 Ti



CM 2

CRN 546-68-9

CMF C3 H8 O . 1/4 Ti



●1/4 Ti(IV)

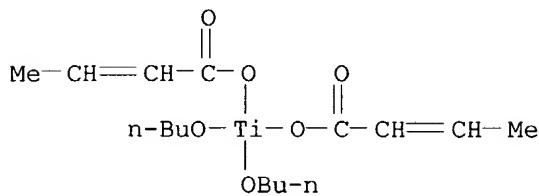
RN 159969-37-6 HCPLUS

CN Titanium, bis(2-butenato-O)dibutoxy-, (T-4)-, polymer with 1-butanol titanium(4+) salt and ethenylbenzene (9CI) (CA INDEX NAME)

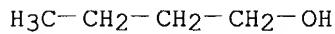
CM 1

CRN 159969-36-5

CMF C16 H28 O6 Ti

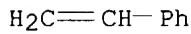


CM 2

CRN 5593-70-4  
CMF C4 H10 O . 1/4 Ti

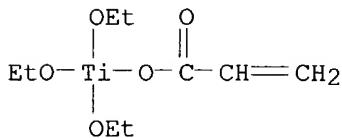
● 1/4 Ti (IV)

CM 3

CRN 100-42-5  
CMF C8 H8

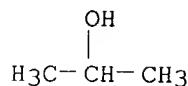
RN 159969-39-8 HCAPLUS  
 CN Titanium, triethoxy(2-propenoato-O)-, (T-4)-, polymer with 2-propanol  
 titanium(4+) salt (9CI) (CA INDEX NAME)

CM 1

CRN 159969-38-7  
CMF C9 H18 O5 Ti

CM 2

CRN 546-68-9  
CMF C3 H8 O . 1/4 Ti



● 1/4 Ti(IV)

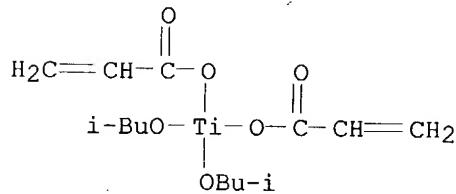
RN 159969-41-2 HCPLUS

CN Titanium, bis(2-methyl-1-propanolato)bis(2-propenoato-O)-, (T-4)-, polymer with ethanol titanium(4+) salt and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 159969-40-1

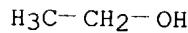
CMF C14 H24 O6 Ti



CM 2

CRN 3087-36-3

CMF C2 H6 O . 1/4 Ti

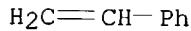


● 1/4 Ti(IV)

CM 3

CRN 100-42-5

CMF C8 H8



L34 ANSWER 21 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1995:222340 HCPLUS

DN 122:315711

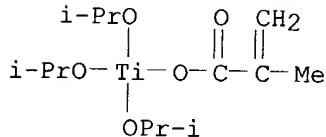
TI Synthesis of barium titanate/polymer composites from metal alkoxide  
 AU Yogo, Toshinobu; Kikuta, Ko-Ichi; Yamada, Seiji; Hirano, Shin-Ichi

CS School of Engineering, Nagoya University, Nagoya, 464-01, Japan  
 SO Journal of Sol-Gel Science and Technology (1994), 2(1/2/3), 175-9  
 CODEN: JSGTEC; ISSN: 0928-0707  
 PB Kluwer  
 DT Journal  
 LA English  
 AB Barium titanate ( $\text{BaTiO}_3$ )/polymer composite was successfully synthesized from methacryloyloxytriisopropoxytitanium (MTPT) and Ba alkoxide. MTPT undergoes radical polymerization using AIBN at 90-150°.  $^1\text{H}$  NMR spectra showed that MTPT reacted with Ba alkoxides yielding a complex alkoxide.  $\text{BaTiO}_3$  particles/polymer was formed after the polymerization and hydrolysis of the complex alkoxide. The transmission electron microscopic observation revealed that crystalline  $\text{BaTiO}_3$  particles of around 3 nm in size were dispersed in the polymer matrix.  
 CC 37-3 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 78  
 ST barium titanate polymer composite; methacryloyloxytriisopropoxytitanium  
 barium alkoxide polymer  
 IT Polymerization  
     (synthesis of barium titanate/polymer composites from barium alkoxide  
     and unsatd. titanium complexes)  
 IT 7440-39-3D, Barium, alkoxides  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
     (synthesis of barium titanate/polymer composites from barium alkoxide  
     and unsatd. titanium complexes)  
 IT 12047-27-7P, Barium titanate, preparation 163549-92-6P,  
 Methacryloyloxytriisopropoxytitanium polymer  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
     (synthesis of barium titanate/polymer composites from barium alkoxide  
     and unsatd. titanium complexes)  
 IT 163549-92-6P, Methacryloyloxytriisopropoxytitanium polymer  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
     (synthesis of barium titanate/polymer composites from barium alkoxide  
     and unsatd. titanium complexes)  
 RN 163549-92-6 HCAPLUS  
 CN Titanium, (2-methyl-2-propenoato-O)tris(2-propanolato)-, (T-4)-,  
 homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 18327-72-5

CMF C13 H26 O5 Ti



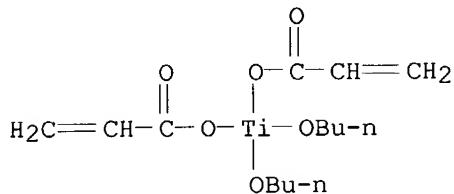
L34 ANSWER 22 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1995:205506 HCAPLUS  
 DN 122:57471  
 TI Organic polymer-titanate composites with good moldability and toughness  
 IN Hirano, Shinichi; Iyanagi, Koichi  
 PA Pola Kasei Kogyo Kk, Japan; Hirano Shinichi  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06157814	A2	19940607	JP 1993-12964	19930128
	JP 3123580	B2	20010115		
	JP 2001106692	A2	20010417	JP 2000-265924	19930128
PRAI	JP 1992-258596	A	19920928		
	JP 1993-12964	A3	19930128		
AB	The title composites for ferroelecs., piezoelec. devices, etc. are formed from unsatd. Ti alkoxides $Ti(OR)_4-nQn$ ( $R$ = short-chain alkyl; $Q$ = acyl containing polymerizable unsatd. bond; $n = 1, 2$ ) and alkoxides of elements forming perovskite crystal structure with Ti by polymerization of the acyl group				
	and hydrolytic polycondensation of the alkoxy group. A composite was formed from titanium methoxide triisopropoxide, barium diethoxide, and styrene.				
IC	ICM C08K003-24				
CC	ICS C07F007-28; C08F030-04; C08L101-00				
ST	37-6 (Plastics Manufacture and Processing)				
IT	acrylic titanate composite moldability toughness				
	Titanoxanes				
	RL: IMF (Industrial manufacture); PREP (Preparation) (acrylic; organic polymer-titanate composites with good moldability and toughness)				
IT	159179-55-2P 159179-57-4P 159179-59-6P				
	RL: IMF (Industrial manufacture); PREP (Preparation) (organic polymer-titanate composites with good moldability and toughness)				
IT	18327-72-5P 159179-51-8P 159179-52-9P				
	RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (organic polymer-titanate composites with good moldability and toughness)				
IT	5593-70-4				
	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction with acrylic acid)				
IT	3087-36-3, Titanium tetraethoxide				
	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction with crotonic acid)				
IT	546-68-9				
	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction with methacrylic acid)				
IT	79-41-4, reactions				
	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction with titanium alkoxides)				
IT	79-10-7, 2-Propenoic acid, reactions				
	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction with titanium tetrabutoxide)				
IT	3724-65-0, 2-Butenoic acid				
	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction with titanium tetraethoxide)				
IT	159179-55-2P 159179-57-4P 159179-59-6P				
	RL: IMF (Industrial manufacture); PREP (Preparation) (organic polymer-titanate composites with good moldability and toughness)				
RN	159179-55-2 HCPLUS				
CN	Titanium, dibutoxybis(2-propenoato-O)-, (T-4)-, polymer with 1-butanol titanium(4+) salt and ethanol strontium salt (9CI) (CA INDEX NAME)				

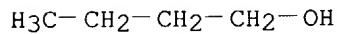
CM 1

CRN 159179-51-8  
 CMF C14 H24 O6 Ti



CM 2

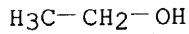
CRN 5593-70-4  
 CMF C4 H10 O . 1/4 Ti



● 1/4 Ti(IV)

CM 3

CRN 2914-18-3  
 CMF C2 H6 O . 1/2 Sr

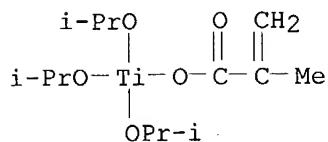


● 1/2 Sr

RN 159179-57-4 HCAPLUS  
 CN Titanium, (2-methyl-2-propenoato-O)tris(2-propanolato)-, (T-4)-, polymer  
 with ethanol barium salt and ethenylbenzene (9CI) (CA INDEX NAME)

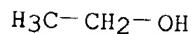
CM 1

CRN 18327-72-5  
 CMF C13 H26 O5 Ti



CM 2

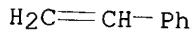
CRN 2914-19-4  
CMF C2 H6 O . 1/2 Ba



● 1/2 Ba

CM 3

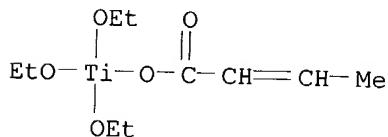
CRN 100-42-5  
CMF C8 H8



RN 159179-59-6 HCPLUS  
CN Titanium, (2-butenoato-O)triethoxy-, (T-4)-, polymer with ethanol calcium salt (9CI) (CA INDEX NAME)

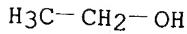
CM 1

CRN 159179-52-9  
CMF C10 H20 O5 Ti



CM 2

CRN 2914-17-2  
CMF C2 H6 O . 1/2 Ca



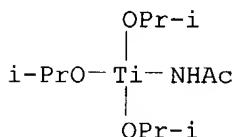
● 1/2 Ca

L34 ANSWER 23 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
AN 1992:50251 HCPLUS

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

DN 116:50251  
 TI Studies of imido derivatives of titanium(IV)  
 AU Rizvi, S. S. A.  
 CS Dep. Chem., Univ. Maiduguri, Maiduguri, Nigeria  
 SO Bulletin of the Chemical Society of Ethiopia (1991), 5(1), 7-10  
 CODEN: BCETE6; ISSN: 1011-3924  
 DT Journal  
 LA English  
 AB Ti(OCHMe<sub>2</sub>)<sub>4</sub>-n(NHOCHR)<sub>n</sub> (n = 1-4; R = Me, Ph, 3-pyridyl) were prepared by the reaction of Ti(OCHMe<sub>2</sub>)<sub>4</sub> with acetamide, benzamide, and nicotinamide in different stoichiometric ratios in anhydrous benzene. The derivs. are stable at ≤300° and were characterized by elemental anal. and IR spectra.  
 CC 78-7 (Inorganic Chemicals and Reactions)  
 ST titanium isopropoxo amidato complex  
 IT Amides, compounds  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (titanium complexes with isopropoxide)  
 IT 69858-57-7P 69858-58-8P 69858-59-9P 69860-27-1P  
 69860-29-3P 69860-31-7P 69860-33-9P  
 69860-35-1P 69860-36-2P 69860-39-5P  
 69860-41-9P 69900-49-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT 69860-27-1P 69860-29-3P 69860-31-7P  
 69860-33-9P 69860-35-1P 69860-39-5P  
 69860-41-9P 69900-49-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 69860-27-1 HCPLUS  
 CN Titanium, (acetamidato-N)tris(2-propanolato)-, (T-4)-, homopolymer (9CI)  
 (CA INDEX NAME)

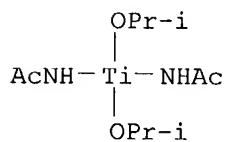
CM 1  
 CRN 69860-26-0  
 CMF C11 H25 N O4 Ti



RN 69860-29-3 HCPLUS  
 CN Titanium, bis(acetamidato-N)bis(2-propanolato)-, (T-4)-, homopolymer (9CI)  
 (CA INDEX NAME)

CM 1

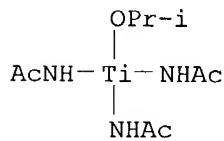
CRN 69860-28-2  
CMF C10 H22 N2 O4 Ti



RN 69860-31-7 HCAPLUS  
CN Titanium, tris(acetamidato-N)(2-propanolato)-, (T-4)-, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

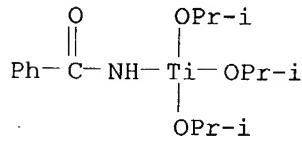
CRN 69860-30-6  
CMF C9 H19 N3 O4 Ti



RN 69860-33-9 HCAPLUS  
CN Titanium, (benzamidato-N)tris(2-propanolato)-, (T-4)-, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

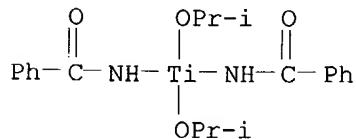
CRN 69860-32-8  
CMF C16 H27 N O4 Ti



RN 69860-35-1 HCAPLUS  
CN Titanium, bis(benzamidato-N)bis(2-propanolato)-, (T-4)-, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

CRN 69860-34-0  
CMF C20 H26 N2 O4 Ti



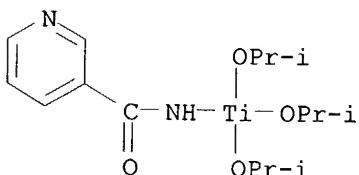
RN 69860-39-5 HCPLUS

CN Titanium, tris(2-propanolato)(3-pyridinecarboxamido-N3)-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 69860-38-4

CMF C15 H26 N2 O4 Ti



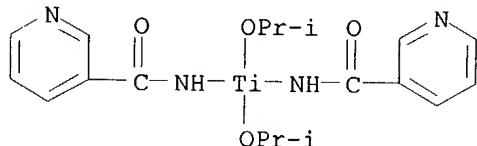
RN 69860-41-9 HCPLUS

CN Titanium, bis(2-propanolato)bis(3-pyridinecarboxamido-N3)-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 69860-40-8

CMF C18 H24 N4 O4 Ti



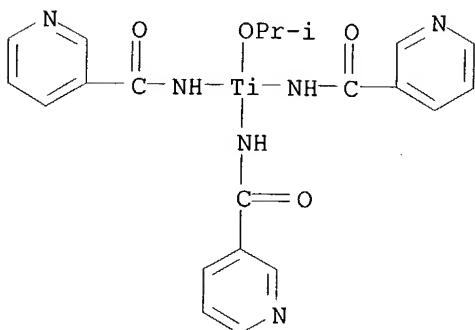
RN 69900-49-8 HCPLUS

CN Titanium, (2-propanolato)tris(3-pyridinecarboxamido-N3)-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 69900-48-7

CMF C21 H22 N6 O4 Ti



L34 ANSWER 24 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1991:33115 HCAPLUS  
 DN 114:33115  
 TI Three-dimensionally crosslinked polyester for electrophotographic toner and its manufacture  
 IN Kamitaki, Takaaki  
 PA Canon K. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02183267	A2	19900717	JP 1989-2023	19890110
	JP 2736987	B2	19980408		
PRAI	JP 1989-2023		19890110		

AB The title polyester comprising a polyol and a polycarboxylic acid having a linkage with Ti is prepared by crosslinking of the polyester using a Ti coupler. The toner with surface smoothness is fixable in a wide range of temperature. Thus, Me terephthalate, Me trimellitate, polyoxyethylene(2,2)-2,2-bis(4-hydroxyphenyl)propane, and tetraisopropylbis(dioctylphosphite) titanate were polymerized then mixed with C.I. Pigment Yellow 17, a Cr-containing charge controller, and powdered silica to give a yellow toner. A developer comprising a coated ferrite carrier and the toner gave a clear offset-free image after 25,000 printings.

IC ICM G03G009-087  
 ICS C08G063-68

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 35

ST electrophotog developer toner polyester binder; titanium coupler crosslinked polyester toner; crosslinking agent coupler color toner; methyl terephthalate copolymer crosslinked toner; polyoxyethylene bishydroxyphenylpropane copolymer crosslinked toner

IT Polyesters, preparation  
 RL: PREP (Preparation)  
 (preparation of, titanium coupler-crosslinked, binder, for electrophotog. developer toner, with surface smoothness)

IT Crosslinking agents  
 (titanium coupler, for polyester, for binder, for electrophotog. developer toner)

IT Binding materials  
 (titanium coupler-crosslinked polyester, for electrophotog. developer toner)

IT Coupling agents  
 (titanium-, crosslinking agent, for polyester, for binder, for electrophotog. developer toner)

IT Electrophotographic developers  
 (toners, binder for, titanium coupler-crosslinked polyester as, with surface smoothness)

IT 131317-57-2P 131317-58-3P **131345-81-8P**  
 RL: PREP (Preparation)  
 (preparation of, binder, for color electrophotog. developer toner, with surface smoothness)

IT **131345-81-8P**  
 RL: PREP (Preparation)

(preparation of, binder, for color electrophotog. developer toner, with surface smoothness)

RN 131345-81-8 HCPLUS

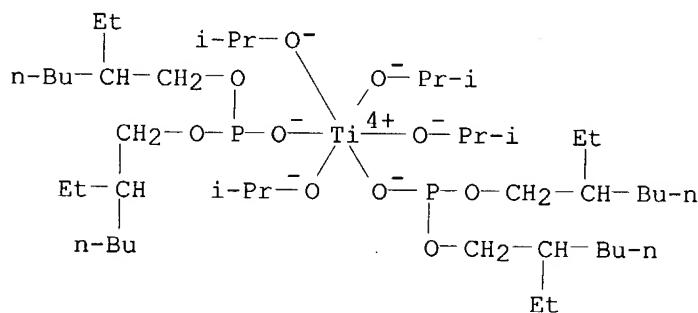
CN Titanate(2-), bis[bis(2-ethylhexyl) phosphito-O'']tetrakis(2-propanolato)-, dihydrogen, polymer with dimethyl 1,4-benzenedicarboxylate,  $\alpha,\alpha'$ -[(1-methylethylidene)di-4,1-phenylene]bis[ $\omega$ -hydroxypoly(oxy-1,2-ethanediyl)] and trimethyl 1,2,4-benzenetricarboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 65460-52-8

CMF C44 H96 O10 P2 Ti . 2 H

CCI CCS



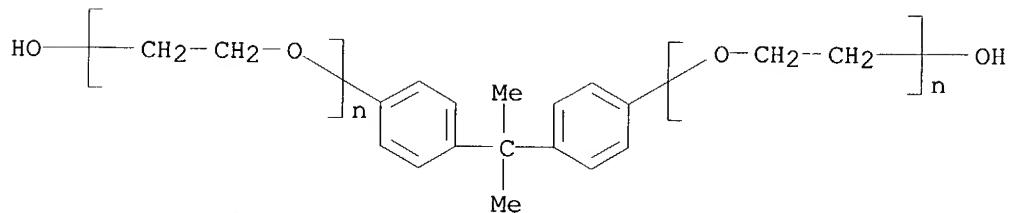
●2  $\text{H}^+$

CM 2

CRN 32492-61-8

CMF  $(\text{C}_2\text{H}_4\text{O})_n (\text{C}_2\text{H}_4\text{O})_n \text{C}_{15}\text{H}_{16}\text{O}_2$

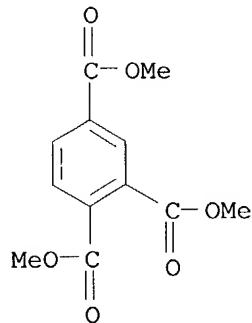
CCI PMS



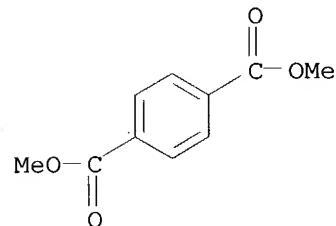
CM 3

CRN 2459-10-1

CMF C12 H12 O6



CM 4

CRN 120-61-6  
CMF C10 H10 O4

L34 ANSWER 25 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1990:621285 HCAPLUS

DN 113:221285

TI Electrophotographic toners using a polyester crosslinked with an organic titanium compound

IN Kamitaki, Takaaki

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01309071	A2	19891213	JP 1988-139419	19880608
PRAI	JP 1988-139419		19880608		

AB Electrophotog. toners comprise a coloring agent and a polyester resin prepared from polyhydric alcs. and polycarboxylic acids and crosslinked with a monomer or polymer RO[TiO(OR<sub>2</sub>)(OR<sub>3</sub>)]<sub>n</sub>R<sub>1</sub> [I; R, R<sub>1</sub> = C<sub>1-10</sub> alkyl; R<sub>2</sub>, R<sub>3</sub> = C<sub>1-10</sub> alkyl, COR<sub>4</sub> (R<sub>4</sub> = C<sub>1-10</sub> alkyl); n = 1-15]. The toners exhibit good fixability, antioffset properties, flowability, impact resistance, and charging properties. Thus, a mixture of a polyester prepared from Me terephthalate, trimellitic anhydride, propylene glycol, and I (R = R<sub>1</sub> = R<sub>2</sub> = R<sub>3</sub> = Bu; n = 2) 100, C.I. Pigment Yellow 17 (dye) 3.5, and a Cr-containing organic complex 4 parts was kneaded, pulverized, and mixed with a SiO<sub>2</sub> powder and subsequently with a resin-coated ferrite carrier to give an

electrophotog. developer, which gave high quality images and showed good durability and antioffset properties.

IC ICM G03G009-08  
IC S ICS G03G009-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

ST electrophotog toner polyester binder; titanium compd polyester toner electrophotog; crosslinked polyester toner electrophotog

IT Titanoxanes

RL: PREP (Preparation)  
(dipentanoates, butyl-terminated, polymers, preparation and use of, as binder for electrostatog. developer toners)

IT Crosslinking agents  
(organotitanium compds., for polyesters, electrostatog. developer toners containing)

IT Polyesters, compounds

RL: USES (Uses)  
(compds., crosslinked with organotitanium compds., as binders for electrostatog. developer toners)

IT Electrophotography  
(developers, toners, containing crosslinked polyester resins as binders, with good antioffset property)

IT Electrophotographic developers  
(toners, containing crosslinked polyester resins as binders, with good antioffset property)

IT 50-70-4DP, D-Glucitol, copolymers with Bisphenol A-ethylene oxide adduct, Bisphenol A-propylene oxide adduct, butanol, succinic acid, terephthalic acid, and titanium salt polybasic 100-21-0DP, 1,4-Benzenedicarboxylic acid, copolymers with Bisphenol A-ethylene oxide adduct, Bisphenol A-propylene oxide adduct, Bisphenol A-propylene oxide adduct, butanol, sorbitol, succinic acid, and titanium salt polybasic 110-15-6DP, Butanedioic acid, copolymers with Bisphenol A-ethylene oxide adduct, Bisphenol A-propylene oxide adduct, Bisphenol A-propylene oxide adduct, butanol, sorbitol, terephthalic acid, and titanium salt polybasic 552-30-7DP, copolymers with Bisphenol A-ethylene oxide adduct, di-Me fumarate, and titanoxanes 624-49-7DP, copolymers with Bisphenol A-propylene oxide adduct, titanoxanes and trimellitic anhydride 5593-70-4DP, copolymers with Bisphenol A-ethylene oxide adduct, Bisphenol A-propylene oxide adduct, sorbitol, succinic acid, and terephthalic acid 32492-61-8DP, copolymers with Bisphenol A-propylene oxide adduct, butanol, sorbitol, succinic acid, terephthalic acid, and titanium salt polybasic 37353-75-6DP, copolymers with Bisphenol A-ethylene oxide adduct, butanol, sorbitol, succinic acid, terephthalic acid, and titanium salt polybasic 37353-75-6DP, copolymers with diols, diacids and titanoxanes  
**130495-22-6P**

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and use of, as binder for electrostatog. developer toners)

IT **130495-22-6P**

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and use of, as binder for electrostatog. developer toners)

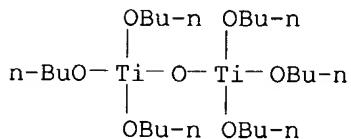
RN 130495-22-6 HCPLUS

CN Titanium, hexabutoxy- $\mu$ -oxodi-, polymer with 1,3-dihydro-1,3-dioxo-5-isobenzofurancarboxylic acid, dimethyl 1,4-benzenedicarboxylate and 1,2-propanediol (9CI) (CA INDEX NAME)

CM 1

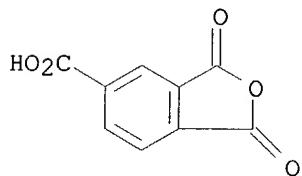
CRN 7393-46-6

CMF C24 H54 O7 Ti2



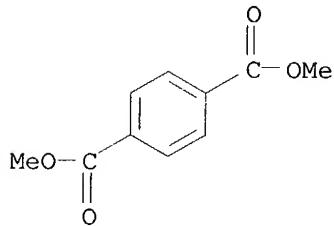
CM 2

CRN 552-30-7  
CMF C9 H4 O5



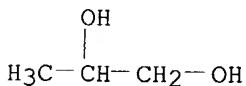
CM 3

CRN 120-61-6  
CMF C10 H10 O4



CM 4

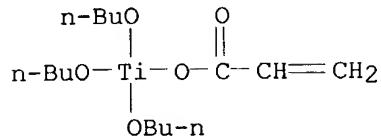
CRN 57-55-6  
CMF C3 H8 O2



L34 ANSWER 26 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
AN 1990:406946 HCPLUS  
DN 113:6946  
TI Study of immobilized catalysts. XXIV. Catalysts resulting from graft polymerization of metal-containing monomers onto polyethylene

AU Savost'yanov, V. S.; Pomogailo, A. D.; Ponomarev, A. N.  
CS Inst. Energ. Probl. Khim. Fiz., Chernogolovka, USSR  
SO Kinetika i Kataliz (1989), 30(6), 1414-20  
CODEN: KNKTA4; ISSN: 0453-8811  
DT Journal  
LA Russian  
AB Metal-containing graft copolymers were obtained by graft polymerization of acrylic acid transition metal salts or acrylamide transition metal complexes onto polyethylene. The valence state, coordination, and ligand environment of the metal in the graft copolymer corresponded to that in the starting monomer. Graft polymerization occurred through only 1 of the available vinyl groups of the salts and complexes, and the graft chains contained unpolymd. vinyl groups. Graft copolymers containing Ni(II) and Ti(IV) had significantly higher catalytic activity in the dimerization and polymerization of ethylene than analogous catalysts immobilized through chemical modification reactions of a polymer support.  
CC 35-8 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 38  
ST metal contg graft copolymer; polymn catalyst metal contg copolymer; dimerization catalyst metal contg copolymer; polyethylene acrylamide metal complex grafted; acrylate metal salt grafted polyethylene; ethylene polymn immobilized metal catalyst  
IT Transition metals, uses and miscellaneous  
RL: CAT (Catalyst use); USES (Uses)  
(catalysts, polymer-supported, preparation of, by graft polymerization of acrylic salts and complexes)  
IT Polymer-supported reagents  
(catalysts, transition metals, preparation of, by graft polymerization of acrylic salts and complexes)  
IT Dimerization catalysts  
Polymerization catalysts  
(transition metals, immobilized, prepared by graft polymerization of acrylic salts and complexes, for ethylene, activity of)  
IT 111866-37-6P, Cobalt diacrylate-ethylene graft copolymer 122159-82-4P,  
Ethylene-nickel diacrylate graft copolymer 122159-83-5P,  
Ethylene-tetrakis(acrylamide)dichloronickel graft copolymer 122159-84-6P, Ethylene-iron triacrylate graft copolymer 122159-85-7P,  
Copper diacrylate-ethylene graft copolymer 127602-32-8P,  
Ethylene-tetrakis(acrylamide)dichlorochromium(+) chloride graft copolymer 127602-89-5P, Ethylene-tributoxytitanyl acrylate graft copolymer 127602-90-8P, Chromium triacrylate-ethylene graft copolymer  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and structure and catalytic activity of)  
IT 9002-88-4P, Polyethylene 16482-32-9P, Ethylene dimer  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, transition metal-containing acrylic graft copolymer as immobilized catalyst for)  
IT 127602-89-5P, Ethylene-tributoxytitanyl acrylate graft copolymer  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and structure and catalytic activity of)  
RN 127602-89-5 HCPLUS  
CN Titanium, tributoxy(2-propenoato-O)-, (T-4)-, polymer with ethene, graft (9CI) (CA INDEX NAME)

CRN 127602-88-4  
 CMF C15 H30 O5 Ti



CM 2

CRN 74-85-1  
 CMF C2 H4

H<sub>2</sub>C=CH<sub>2</sub>

L34 ANSWER 27 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN

AN 1990:140779 HCPLUS

DN 112:140779

TI Alkoxytitanium-based surface treatment and treated fillers

IN Mori, Atsushi; Aizawa, Mamoru; Kataoka, Yoshiharu

PA Nippon Soda Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01170624	A2	19890705	JP 1987-329355	19871225
PRAI	JP 1987-329355		19871225		

AB Title fillers, useful for high-mol.-weight matrixes, are treated with products prepared from tetralkoxytitanium and/or its hydrolyzed oligomers (d.p. ≤ 6) and oxyalkylene-containing acids with 0.1-2.0 mol the acid residues per Ti. Thus, 1 mol tetraisopropoxytitanium and 1 mol mono(pentaoxyethylene) maleate (I) were treated at 60° for 1 h to give title treatment. Then, 100 parts Whiton SSB was mixed with 50 parts of 2% aqueous solution of the treatment and treated at 110° for 2 h to give a filler, 100 parts of which was blended with 75 parts Diol 3000 and kneaded for 30 min to give a composition showing viscosity 4000 cP at 25° vs. 62,000 for a composition using a treatment prepared similarly using N-aminoethylaminoethanol instead of I.

IC ICM C08K009-04

ICS C08K009-04; C09C001-36

CC 38-3 (Plastics Fabrication and Uses)

ST alkoxytitanium surface treatment filler; alkylene ether acid alkoxytitanium adduct; isopropoxytitanium polyoxyethylene maleate surface treatment; calcium carbonate filler surface treatment

IT Polyethers, uses and miscellaneous

RL: USES (Uses)

(fillers for, surface-treatment for, alkoxytitanium-based compds. as)

IT 112263-55-5, Diol 3000

RL: USES (Uses)  
 (fillers for, surface-treatment for, alkoxytitanium-based compds. as)

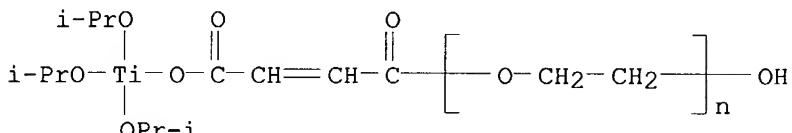
IT 105417-75-2, Almatex E 175  
 RL: USES (Uses)  
 (fillers for, surface-treatments for, alkoxytitanium-based compds. as)

IT 5593-70-4DP, reaction products with polyoxyalkylene-containing acids  
 26183-44-8DP, reaction products with tetraisopropoxytitanium tetrimer  
 31800-89-2DP, reaction products with tetrabutoxytitanium 80165-12-4DP,  
 reaction products with tetrabutoxytitanium hexamers 82293-55-8DP,  
 reaction products with polyoxyalkylene-containing acids 125826-06-4DP,  
 reaction products with polyoxyalkylene-containing acids 125870-89-5DP,  
 reaction products with polyoxyalkylene-containing acids 125925-79-3P  
 125925-80-6DP, reaction products with tetraisopropoxytitanium  
 125925-81-7DP, reaction products with tetraisopropoxytitanium pentamer  
 RL: PREP (Preparation)  
 (preparation of, as surface treatment for fillers)

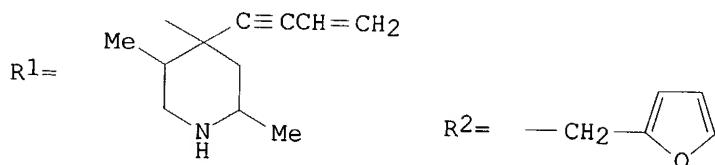
IT 471-34-1, Whiton SSB, uses and miscellaneous  
 RL: USES (Uses)  
 (surface treatment for, alkoxytitanium-based compds. as)

IT 125925-79-3P  
 RL: PREP (Preparation)  
 (preparation of, as surface treatment for fillers)

RN 125925-79-3 HCPLUS  
 CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -hydroxy-, ether with  
 [T-4-(Z)]-[mono(2-hydroxyethyl) 2-butenedioato-O4]tris(2-  
 propanolato)titanium (1:1) (9CI) (CA INDEX NAME)



L34 ANSWER 28 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1988:22315 HCPLUS  
 DN 108:22315  
 TI Preparation and reactivity of metal-containing monomers. 6.  
 Polymerization of metal-containing monomers based on Ti(IV) alkoxy derivatives and properties of the products  
 AU Dzhardimalieva, G. I.; Tonoyan, A. O.; Pomogailo, A. D.; Davtyan, S. P.  
 CS Inst. Khim. Fiz., Chernogolovka, USSR  
 SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1987), (8), 1744-8  
 CODEN: IASKA6; ISSN: 0002-3353  
 DT Journal  
 LA Russian  
 GI



AB The radical homopolyrn. of  $(BuO)_3TiOR$  (I; R =  $CH_2CH_2O_2CMeC:CH_2$ ,  $CMe_2C.tpbond.CCH:CH_2$ , R1, R2) in  $C_6H_6$  was 0.5 order with respect to monomer concentration, which was attributed to coordination of catalyst radicals with the monomer and participation of such monomer-coordinated radicals predominately in chain termination. I homopolymers had high thermal stability (attributed to network formation) and 2 glass transition temps.

CC 35-3 (Chemistry of Synthetic High Polymers)

ST titanium contg polymer prepn property; polymn unsatd butoxytitanium compd kinetics

IT Glass temperature and transition

(of titanium-containing vinyl polymers)

IT Kinetics of polymerization

(radical, of tributoxytitanium-containing vinyl compds., monomer-radical coordination in relation to)

IT 96301-49-4 112130-34-4 112144-98-6 112144-99-7

RL: RCT (Reactant); RACT (Reactant or reagent)  
(polymerization of, kinetics of)

IT 112130-35-5P 112145-50-3P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(preparation and thermal properties of)

IT 112145-50-3P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(preparation and thermal properties of)

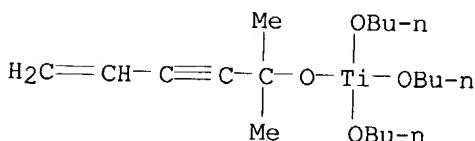
RN 112145-50-3 HCPLUS

CN Titanium, tributoxy(2-methyl-5-hexen-3-yn-2-olato)-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96301-49-4

CMF C19 H36 O4 Ti



L34 ANSWER 29 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
AN 1986:461753 HCPLUS  
DN 105:61753  
TI Rust-preventing epoxy resin compositions

IN Sato, Shigeyuki; Matsushita, Mitsumasa  
 PA Toyota Central Research and Development Laboratories, Inc., Japan  
 SO U.S., 20 pp.  
 CODEN: USXXAM

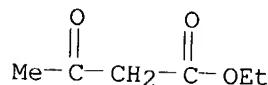
DT Patent

LA English

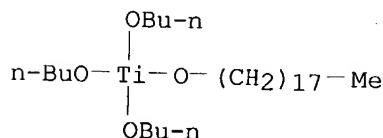
FAN.CNT 11

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4560716	A	19851224	US 1984-643921	19840824
	JP 60051712	A2	19850323	JP 1983-158756	19830830
	JP 60058426	A2	19850404	JP 1983-167175	19830909
	JP 60076529	A2	19850501	JP 1983-185538	19831003
	JP 60079025	A2	19850504	JP 1983-186201	19831005
	JP 60079026	A2	19850504	JP 1983-188005	19831006
	JP 60079027	A2	19850504	JP 1983-188006	19831006
	JP 60101114	A2	19850605	JP 1983-208821	19831107
	JP 60110721	A2	19850617	JP 1983-218454	19831119
	JP 60124620	A2	19850703	JP 1983-234475	19831212
	JP 60127320	A2	19850708	JP 1983-236530	19831215
	JP 61023622	A2	19860201	JP 1984-145141	19840712
	JP 61028519	A2	19860208	JP 1984-149246	19840718
	JP 61031423	A2	19860213	JP 1984-152673	19840723
	JP 61034014	A2	19860218	JP 1984-156320	19840726
	JP 61036316	A2	19860221	JP 1984-158500	19840727
PRAI	JP 1983-158756		19830830		
	JP 1983-167175		19830909		
	JP 1983-185538		19831003		
	JP 1983-186201		19831005		
	JP 1983-188005		19831006		
	JP 1983-188006		19831006		
	JP 1983-208821		19831107		
	JP 1983-218454		19831119		
	JP 1983-234475		19831212		
	JP 1983-236530		19831215		
	JP 1984-145141		19840712		
	JP 1984-149246		19840718		
	JP 1984-152673		19840723		
	JP 1984-156320		19840726		
	JP 1984-158500		19840727		
AB	The title compns. comprise an epoxy resin, a hardener, and ≥1 additive for forming a rust-preventing film selected from compds. HSP(S)(OR)OR1 (R and R1 = C1-24 alkyl, aryl, or alkenyl), and their metal or ammonium salts, compds. (R2NR3CS2) <sub>n</sub> Mm (R2 and R3 = C1-18 alkyl, aryl, alkenyl, aralkyl; NR2R3 = cyclic radical; M = Zn, Mo, Fe, Cu, Pb, etc.; n and m = integer), and oxidized waxes. In some cases, the compns. also contain siloxanes, Al compds., Ti compds., and tin compds. The cured compns. have good resistance to high temperature and high humidity and are useful as rust-preventing encapsulating materials for semiconductor devices, etc. Thus, a mixture of o-cresol novolak epoxy resin 75, bisphenol A epoxy resin 25, phenol novolak 50, 2-phenylimidazole 3, silica 350, epoxysilane 2, carnauba wax 2, and Zn dioctyl dithiophosphate (I) 2 parts was used to encapsulate an elec. element by transfer molding at 175° for 3 min and curing 8 h at 165°. The encapsulated element exhibited moisture resistance (in saturated steam at 121°/2 atm until elec. conductivity stopped) 420 h, vs. 110 for a mixture without I.				
IC	ICM C08K005-39				
	ICS C08K005-49				
NCL	523451000				

CC 38-3 (Plastics Fabrication and Uses)  
 ST encapsulating epoxy waterproofing additive; potting epoxy waterproofing additive; heat resistance epoxy potting; corrosion prevention epoxy potting; thiophosphate waterproofing epoxy potting; thiocarbamate waterproofing epoxy potting; wax waterproofing epoxy potting; siloxane waterproofing epoxy potting; aluminum compd waterproofing epoxy; titanium compd waterproofing epoxy; tin compd waterproofing epoxy  
 IT Potting  
     (compn., epoxy, water- and corrosion-resistant)  
 IT Heat-resistant materials  
     (epoxy potting compn.)  
 IT Siloxanes and Silicones, uses and miscellaneous  
     RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
     (epoxy potting compns. containing, water- and corrosion-resistant)  
 IT Carnauba wax  
 Paraffin waxes and Hydrocarbon waxes, uses and miscellaneous  
     RL: USES (Uses)  
     (oxidized, epoxy potting compns. containing, water- and corrosion-resistant)  
 IT Epoxy resins, uses and miscellaneous  
     RL: USES (Uses)  
     (potting compn., for elec. apparatus, water- and corrosion-resistant)  
 IT Waterproofing  
     (agents, epoxy potting compns. containing)  
 IT 56-35-9 56-36-0 57-11-4D, titanium polymeric complexes 77-58-7  
 123-54-6D, titanium polymeric complexes 136-23-2 137-29-1  
**141-97-9D**, titanium complexes 546-68-9 555-31-7 556-91-2  
 595-90-4 637-12-7 818-08-6 910-06-5 1068-31-1 1070-10-6  
 1071-06-3 1071-18-7 1185-81-5 1186-33-0 1461-25-2 2253-60-3  
 2269-22-9 2929-95-5 3085-30-1 3090-35-5 3090-36-6 3572-47-2  
 3605-65-0 4259-15-8 4342-36-3 4563-55-7 5128-29-0 5593-70-4  
 5847-55-2 6028-57-5 6990-43-8 7059-15-6 7059-16-7 7230-93-5  
 7282-31-7 7439-98-7D, salts with dithiophosphate esters 7440-32-6D,  
 complexes 7440-66-6D, salts with dithiophosphate esters 9022-96-2  
 13269-74-4 13419-15-3 13681-87-3 13878-54-1 14024-64-7  
 14275-53-7 14275-57-1 14324-55-1 14634-93-6 14728-88-2  
 15167-49-4 15225-85-1 15306-17-9 15337-18-5 15666-28-1  
 15694-56-1 15796-28-8 15834-33-0D, esters, metal salts 15874-15-4  
 18475-38-2 18819-97-1 20260-60-0 22205-26-1 25103-54-2  
 27147-18-8 27738-95-0 31320-65-7 36190-63-3 36190-64-4  
 37066-82-3 39317-20-9 41556-46-1 43100-11-4 53423-98-6  
 54261-67-5 60755-39-7 61417-55-8 62180-92-1 64060-97-5  
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 75752-67-9 79110-90-0 89370-59-2 95297-96-4 97922-83-3  
 99714-56-4 100835-88-9 100907-92-4 102304-60-9 102328-54-1  
 102390-10-3 102390-11-4 102390-12-5 **104764-71-8**  
     RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
     (epoxy potting compns. containing, water- and corrosion-resistant)  
 IT **141-97-9D**, titanium complexes **104764-71-8**  
     RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
     (epoxy potting compns. containing, water- and corrosion-resistant)  
 RN 141-97-9 HCPLUS  
 CN Butanoic acid, 3-oxo-, ethyl ester (9CI) (CA INDEX NAME)



RN 104764-71-8 HCPLUS  
 CN Titanium, tributoxy(1-octadecanolato)-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 74378-43-1  
 CMF C30 H64 O4 Ti

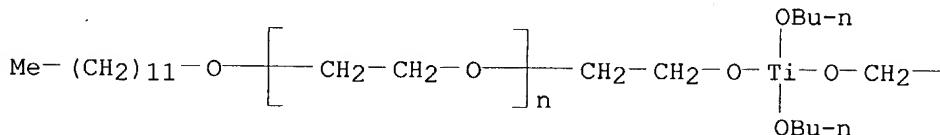


L34 ANSWER 30 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1986:151300 HCPLUS  
 DN 104:151300  
 TI Dispersion improvers for inorganic fillers  
 IN Sato, Masayuki; Kobayashi, Noriyuki; Funamoto, Akihiko; Kataoka, Yoshiharu; Ando, Yoshuki  
 PA Nippon Soda Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

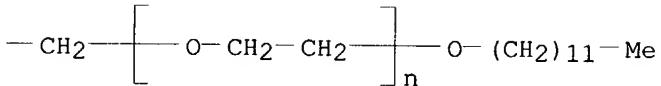
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 60143820	A2	19850730	JP 1983-241447	19831222
JP 04013018	B4	19920306		
PRAI JP 1983-241447		19831222		
AB Compds. (RO) <sub>4-x</sub> Ti[(OR <sub>1</sub> ) <sub>n</sub> OR <sub>2</sub> ] <sub>x</sub> (R = C <sub>1-8</sub> hydrocarbyl, R <sub>1</sub> = C <sub>4-22</sub> divalent hydrocarbyl, R <sub>2</sub> = C <sub>4-22</sub> hydrocarbyl, average x = 1-3, average n = 1-20) are useful for dispersing organic fillers in organic compns. such coating compns., inks, and adhesives. Thus, 284 g (iso-PrO) <sub>4</sub> Ti and 1188 g p-(C <sub>9</sub> H <sub>19</sub> )C <sub>6</sub> H <sub>4</sub> O(C <sub>2</sub> H <sub>4</sub> O) <sub>4</sub> H were heated at 60-75° to give 1292 g iso-PrOTi[(OC <sub>2</sub> H <sub>4</sub> ) <sub>4</sub> O-p-C <sub>6</sub> H <sub>4</sub> C <sub>9</sub> H <sub>10</sub> ] <sub>3</sub> (I). A mixture of Epikote 828 100, I 0.5, TiO <sub>2</sub> 0.5, and xylene 37.6 parts was homogeneous, had viscosity 310 cP, and contained no sediment, vs. 820 cP and sediment when the composition contained no I.				
IC ICM B01F017-42				
ICA C07F007-28				
CC 46-4 (Surface Active Agents and Detergents)				
ST Section cross-reference(s): 37, 42				
IT dispersing agent ethoxylate titanate; titania dispersant epoxy soln; filler dispersant ethoxylate titanate				
IT Epoxy resins, uses and miscellaneous				
RL: USES (Uses)				
(dispersing agents for inorg. fillers in organic solution of)				

IT Titanates  
 RL: USES (Uses)  
     (of ethoxylated alcs., dispersing agents, for inorg. fillers in organic media)  
 IT Dispersing agents  
     (titanates of ethoxylated alcs., for inorg. fillers in organic media)  
 IT 25068-38-6  
 RL: USES (Uses)  
     (dispersing agents for inorg. fillers in organic solns. of)  
 IT 13463-67-7, uses and miscellaneous  
 RL: USES (Uses)  
     (dispersing agents for, in organic solution of epoxy resin)  
 IT 101310-69-4P 101310-70-7P 101364-91-4P  
     101466-08-4P 101466-09-5P  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
     (preparation of, as dispersing agent for inorg. fillers in organic media)  
 IT 546-68-9 5593-70-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
     (transesterification of, with ethoxylated alcs.)  
 IT 9002-92-0 9064-14-6 26027-38-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
     (transesterification of, with tetraalkyl titanates)  
 IT 101310-69-4P 101310-70-7P 101364-91-4P  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
     (preparation of, as dispersing agent for inorg. fillers in organic media)  
 RN 101310-69-4 HCAPLUS  
 CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -(dodecyloxy)-, ether with  
     (T-4)-dibutoxybis(1,2-ethanediolato-O)titanium (2:1) (9CI) (CA INDEX  
     NAME)

PAGE 1-A

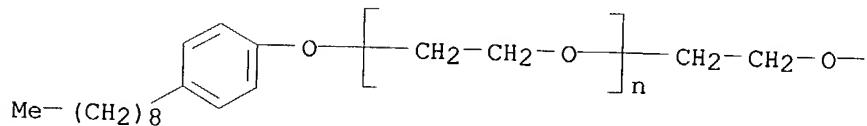


PAGE 1-B

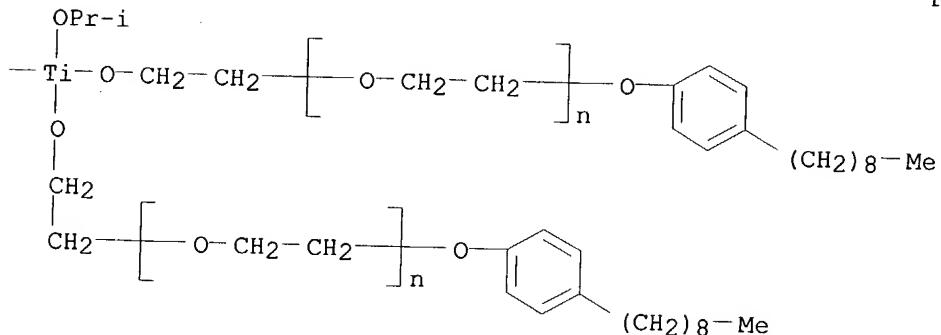


RN 101310-70-7 HCAPLUS  
 CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -(4-nonylphenoxy)-, ether  
     with (T-4)-tris(1,2-ethanediolato-O)(2-propanolato)titanium (3:1) (9CI)  
     (CA INDEX NAME)

PAGE 1-A



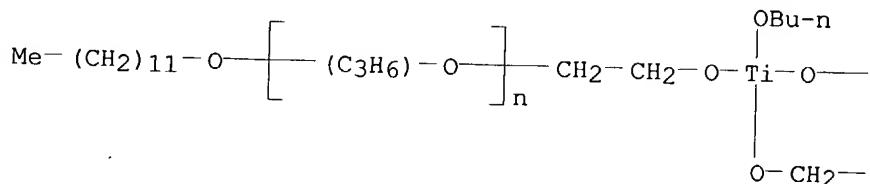
PAGE 1-B



RN 101364-91-4 HCAPLUS

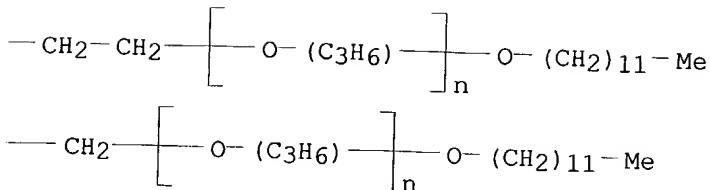
CN Poly[oxy(methyl-1,2-ethanediyl)],  $\alpha$ -hydro- $\omega$ -(dodecyloxy)-, ether with (T-4)-butoxytris(methyl-1,2-ethanediolato-O)titanium (3:1) (9CI) (CA INDEX NAME)

PAGE 1-A

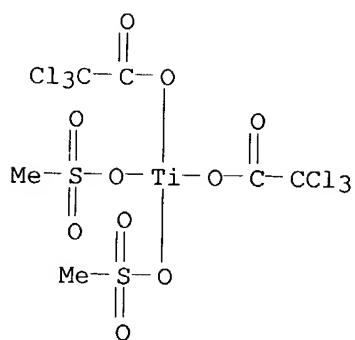


3 ( D1-Me )

PAGE 1-B



L34 ANSWER 31 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
AN 1984:28822 HCPLUS  
DN 100:28822  
TI Chemistry of substituted sulfuric acids: Part XVIII - Preparation of methanesulfonatotitanium(IV) chloroacetates  
AU Kumar, Suniti; Mahajan, R. K.; Kapila, V. P.  
CS Dep. Chem., Panjab Univ., Chandigarh, 160 014, India  
SO Indian Journal of Chemistry, Section A: Inorganic, Physical, Theoretical & Analytical (1983), 22A(6), 490-3  
CODEN: IJCADU; ISSN: 0376-4710  
DT Journal  
LA English  
AB The solvolysis of  $TiCl_nMeSO_3$  4-n ( $n = 1-3$ ) with  $Cl_mH_3-mCCO_2H$  ( $m = 1-3$ , HL) gave  $TiLn(MeSO_3)$  4-n ( $n = 1-3$ ). Most of the compds. have bridging  $MeSO_3$  groups and  $Ti[O_6]$  chromophores. Thermochem. show that these are good Lewis acids.  $MeSO_3$  is a better coordinating group than L.  $TiLn(MeSO_3)$  4-n form 1:1 and 1:2 complexes with 2,2'-bipyridine and pyridine, resp. The pyridine complexes decompose to  $TiO_2$ .  
CC 78-7 (Inorganic Chemicals and Reactions)  
Section cross-reference(s): 69  
ST titanium methanesulfonato chlorooacetate pyridine bipyridine; acidity  
titanium methanesulfonato chloroacetato  
IT 86995-59-7P 86999-51-1P 86999-53-3P  
86999-55-5P 86999-57-7P 86999-59-9P 86999-61-3P  
86999-63-5P 87097-93-6P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and Lewis acidity towards pyridine or bipyridine)  
IT 86995-47-3P 86995-49-5P 86995-51-9P 86995-53-1P 86995-55-3P  
86995-57-5P 87015-17-6P 87015-19-8P 87015-21-2P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and thermal decomposition of)  
IT 86995-48-4P 86995-50-8P 86995-52-0P 86995-54-2P 86995-56-4P  
86995-58-6P 87015-18-7P 87015-20-1P 87015-22-3P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
IT 30321-36-9 55042-26-7 55042-27-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(solvolysis of, titanium methanesulfonate chloroacetato complexes from)  
IT 86999-51-1P 86999-53-3P 86999-55-5P  
86999-57-7P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and Lewis acidity towards pyridine or bipyridine)  
RN 86999-51-1 HCPLUS  
CN Titanium, bis(methanesulfonato-O)bis(trichloroacetato-O)-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)  
CM 1  
CRN 86999-50-0  
CMF C6 H6 Cl6 O10 S2 Ti



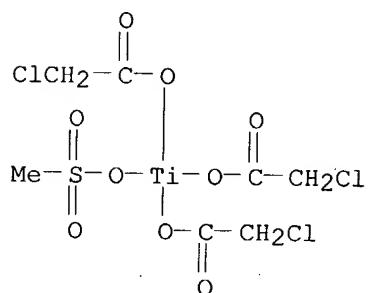
RN 86999-53-3 HCPLUS

CN Titanium, tris(chloroacetato-O)(methanesulfonato-O)-, (T-4)-, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 86999-52-2

CMF C7 H9 Cl3 O9 S Ti



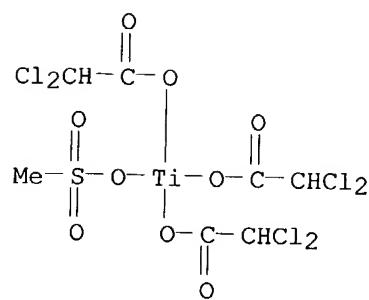
RN 86999-55-5 HCPLUS

CN Titanium, tris(dichloroacetato-O)(methanesulfonato-O)-, (T-4)-,  
homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 86999-54-4

CMF C7 H6 Cl6 O9 S Ti



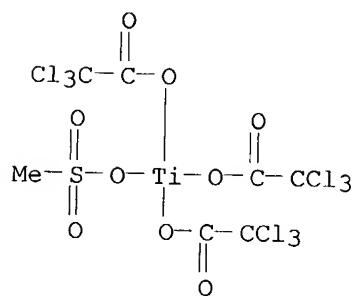
RN 86999-57-7 HCAPLUS

CN Titanium, (methanesulfonato-O)tris(trichloroacetato-O)-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 86999-56-6

CMF C7 H3 Cl9 O9 S Ti



L34 ANSWER 32 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1979:179349 HCAPLUS

DN 90:179349

TI Imido derivatives of titanium(IV)

AU Nahar, K. R.; Solanki, A. K.; Bhandari, A. M.

CS Dep. Chem., Univ. Jodhpur, Jodhpur, India

SO Zeitschrift fuer Anorganische und Allgemeine Chemie (1979), 449, 187-92  
 CODEN: ZAACAB; ISSN: 0044-2313

DT Journal

LA English

AB The reactions of  $\text{Ti}(\text{OPr-iso})_4$  with  $\text{RCONH}_2$  ( $\text{R} = \text{Me, Ph, 3-pyridyl}$ ) in different stoichiometric ratios in anhydrous  $\text{C}_6\text{H}_6$  gave the complexes of the type  $(\text{iso-PrO})_4\text{nTi}(\text{NHCOR})_n$  ( $n = 1-4$ ). All the complexes are insol. in common organic solvents, suggesting their polymeric nature. With the exception of  $(\text{iso-PrO})_2\text{Ti}(\text{NHCOR})_2$  ( $\text{R} = \text{Ph, 3-pyridyl}$ ) and  $\text{Ti}(\text{NHCOR})_4$  ( $\text{R} = 3\text{-pyridyl}$ ), the complexes do not sublime at  $250^\circ$  in vacuum nor do they decompose appreciably at  $<300^\circ$ . The IR spectra are discussed.

CC 78-7 (Inorganic Chemicals and Reactions)

ST amido isopropoxy titanium complexes; benzamido isopropoxy titanium; acetamido isopropoxy titanium; nicotinamido isopropoxy titanium

IT 69858-57-7P 69858-58-8P 69858-59-9P 69860-27-1P

69860-29-3P 69860-31-7P 69860-33-9P  
69860-35-1P 69860-37-3P 69860-39-5P  
69860-41-9P 69900-49-8P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

IT 69860-27-1P 69860-29-3P 69860-31-7P  
69860-33-9P 69860-35-1P 69860-37-3P  
69860-39-5P 69860-41-9P 69900-49-8P

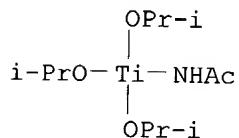
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 69860-27-1 HCPLUS

CN Titanium, (acetamidato-N)tris(2-propanolato)-, (T-4)-, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

CRN 69860-26-0  
CMF C11 H25 N O4 Ti

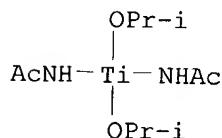


RN 69860-29-3 HCPLUS

CN Titanium, bis(acetamidato-N)bis(2-propanolato)-, (T-4)-, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

CRN 69860-28-2  
CMF C10 H22 N2 O4 Ti

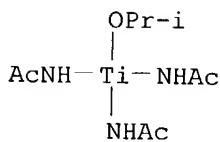


RN 69860-31-7 HCPLUS

CN Titanium, tris(acetamidato-N)(2-propanolato)-, (T-4)-, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

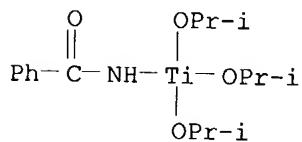
CRN 69860-30-6  
CMF C9 H19 N3 O4 Ti



RN 69860-33-9 HCPLUS  
CN Titanium, (benzamidato-N)tris(2-propanolato)-, (T-4)-, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

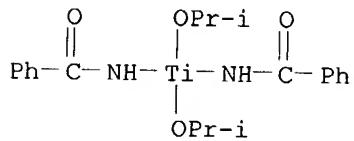
CRN 69860-32-8  
CMF C16 H27 N O4 Ti



RN 69860-35-1 HCPLUS  
CN Titanium, bis(benzamidato-N)bis(2-propanolato)-, (T-4)-, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

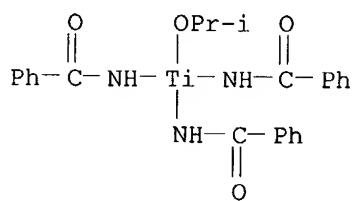
CRN 69860-34-0  
CMF C20 H26 N2 O4 Ti



RN 69860-37-3 HCPLUS  
CN Titanium, tris(benzamidato-N)(2-propanolato)-, (T-4)-, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

CRN 69860-36-2  
CMF C24 H25 N3 O4 Ti



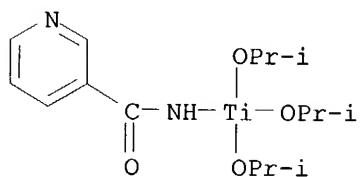
RN 69860-39-5 HCAPLUS

CN Titanium, tris(2-propanolato)(3-pyridinecarboxamido-N3)-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 69860-38-4

CMF C15 H26 N2 O4 Ti



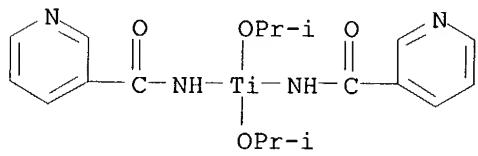
RN 69860-41-9 HCAPLUS

CN Titanium, bis(2-propanolato)bis(3-pyridinecarboxamido-N3)-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 69860-40-8

CMF C18 H24 N4 O4 Ti



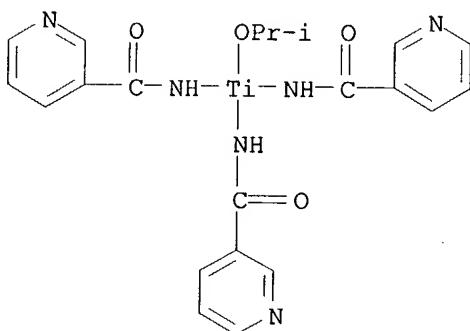
RN 69900-49-8 HCAPLUS

CN Titanium, (2-propanolato)tris(3-pyridinecarboxamido-N3)-, (T-4)-, homopolymer (9CI) (CA INDEX NAME)

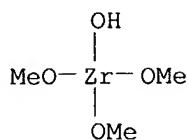
CM 1

CRN 69900-48-7

CMF C21 H22 N6 O4 Ti



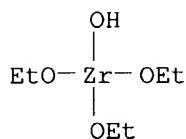
L34 ANSWER 33 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1978:15270 HCAPLUS  
DN 88:15270  
TI Oxozirconium(IV) alkoxides  
AU Paul, Ram Chand; Gupta, Surinder Kumar; Goyal, Veena; Vasisht, Sham Kumar  
CS Dep. Chem., Panjab Univ., Chandigarh, India  
SO Monatshefte fuer Chemie (1977), 108(5), 1019-25  
CODEN: MOCMB7; ISSN: 0026-9247  
DT Journal  
LA English  
AB Oxozirconium(IV) alkoxides of the type ZrO(OR)<sub>2</sub>.ROH and ZrOCl(OR).2ROH, where R = Me, Et, and iso-Pr, and ZrO(OCMe<sub>3</sub>)<sub>2</sub>.0.5 Me<sub>3</sub>COH and ZrOCl(OCMe<sub>3</sub>).1.5 Me<sub>3</sub>COH were prepared by the reaction of ZrOCl<sub>2</sub>.2HOAc with the corresponding alcs. in the presence of appropriate amts. of piperidine. The alkoxides were isolated and characterized through IR, thermal, and conductance studies.  
CC 78-7 (Inorganic Chemicals and Reactions)  
ST zirconyl alkoxides  
IT Infrared spectra  
(of zirconyl alkoxide)  
IT 65010-39-1P 65010-41-5P 65010-43-7P 65010-45-9P **65048-31-9P**  
**65048-33-1P 65048-35-3P** 65153-56-2P  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation)  
; PREP (Preparation); RACT (Reactant or reagent)  
(preparation, IR spectrum and thermal decomposition of)  
IT 63239-16-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactions of, with alcs.)  
IT **65048-31-9P 65048-33-1P 65048-35-3P**  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation)  
; PREP (Preparation); RACT (Reactant or reagent)  
(preparation, IR spectrum and thermal decomposition of)  
RN 65048-31-9 HCAPLUS  
CN Zirconium, hydroxytrimethoxy-, homopolymer (9CI) (CA INDEX NAME)  
CM 1  
CRN 65048-30-8  
CMF C<sub>3</sub> H<sub>10</sub> O<sub>4</sub> Zr



RN 65048-33-1 HCPLUS  
CN Zirconium, triethoxyhydroxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

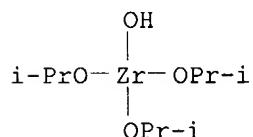
CRN 65048-32-0  
CMF C6 H16 O4 Zr



RN 65048-35-3 HCPLUS  
CN Zirconium, hydroxytris(2-propanolato)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 65048-34-2  
CMF C9 H22 O4 Zr



L34 ANSWER 34 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
AN 1977:415285 HCPLUS  
DN 87:15285  
TI Reactions of dichloroxozirconium(IV) octahydrate with monocarboxylic acid chlorides  
AU Paul, Ram Chand; Gupta, Surinder Kumar; Sharma, Rajendra Dev; Vasisht, Sham Kumar  
CS Dep. Chem., Panjab Univ., Chandigarh, India  
SO Zeitschrift fuer Naturforschung, Teil B: Anorganische Chemie, Organische Chemie (1977), 32B(5), 543-6  
CODEN: ZNBAD2; ISSN: 0340-5087  
DT Journal  
LA English  
AB  $\text{ZrOCl}_2 \cdot 8\text{H}_2\text{O}$  reacts with acetyl, propionyl, butyryl and chloracetyl chlorides at low temps. to form addition compds. of the parent carboxylic acid,  $\text{ZrOCl}_2 \cdot 2\text{RCO}_2\text{H}$ , but at higher temps. the corresponding carboxylates of the type  $\text{ZrO}(\text{RCO}_2)_2 \cdot \text{RCO}_2\text{H}$  are obtained. Benzoyl chloride does not react at low temps., but at 60° gives an addition product

ZrOCl<sub>2</sub>.2PhCO<sub>2</sub>H, and at higher temps. a substitution product ZrO(PhCO<sub>2</sub>)<sub>2</sub>.2PhCO<sub>2</sub>H is obtained. Elemental analyses, molar conductance measurements, IR spectral studies and thermal decompns. have been carried out to understand the nature of these compds.

CC 78-7 (Inorganic Chemicals and Reactions)

ST zirconium carboxylic acid chloride

IT 59650-54-3P 63161-87-5P 63161-89-7P

63161-91-1P 63221-63-6P 63239-17-8P

63239-19-0P 63239-21-4P 63239-23-6P

63288-62-0P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

IT 75-36-5 79-03-8 79-04-9 141-75-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with dichlorooxozirconium octahydrate)

IT 13520-92-8

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactions of, with carboxylic acid chlorides)

IT 59650-54-3P 63161-87-5P 63161-89-7P

63161-91-1P 63221-63-6P 63239-17-8P

63239-19-0P 63239-21-4P 63239-23-6P

63288-62-0P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 59650-54-3 HCPLUS

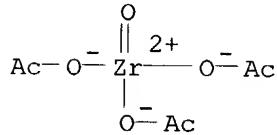
CN Zirconate(1-), tris(acetato-O)oxo-, hydrogen, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 59650-53-2

CMF C6 H9 O7 Zr . H

CCI CCS



● H<sup>+</sup>

RN 63161-87-5 HCPLUS

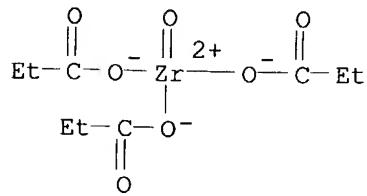
CN Zirconate(1-), oxotris(propanoato-O)-, hydrogen, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 63161-86-4

CMF C9 H15 O7 Zr . H

CCI CCS

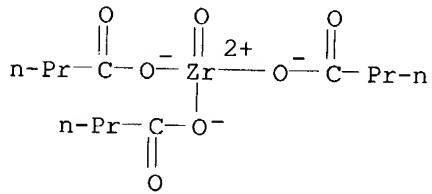


● H<sup>+</sup>

RN 63161-89-7 HCPLUS  
CN Zirconate(1-), tris(butanoato-O)oxo-, hydrogen, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 63161-88-6  
CMF C12 H21 O7 Zr . H  
CCI CCS

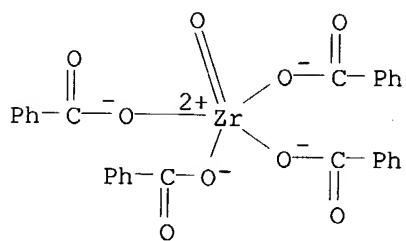


● H<sup>+</sup>

RN 63161-91-1 HCPLUS  
CN Zirconate(2-), tetrakis(benzoato-O)oxo-, dihydrogen, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 63161-90-0  
CMF C28 H20 O9 Zr . 2 H  
CCI CCS



● 2 H<sup>+</sup>

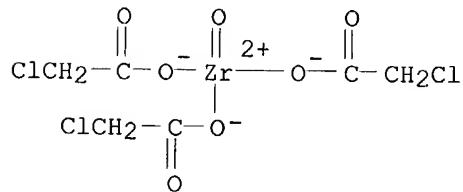
RN 63221-63-6 HCAPLUS

CN Zirconate(1-), 3-(chloroacetato-O)oxo-, hydrogen, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 63221-62-5

CMF C6 H6 Cl3 O7 Zr . H  
CCI CCS



● H<sup>+</sup>

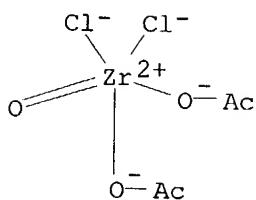
RN 63239-17-8 HCAPLUS

CN Zirconate(2-), bis(acetato-O)dichlorooxo-, dihydrogen, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 63239-16-7

CMF C4 H6 Cl2 O5 Zr . 2 H  
CCI CCS

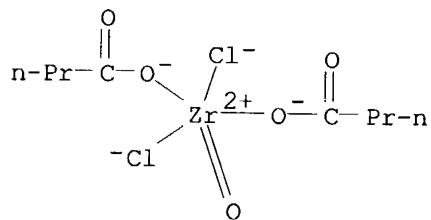


●2 H<sup>+</sup>

RN 63239-19-0 HCPLUS  
CN Zirconate(2-), bis(butanoato-O)dichlorooxo-, dihydrogen, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

CRN 63239-18-9  
CMF C8 H14 Cl2 O5 Zr . 2 H  
CCI CCS

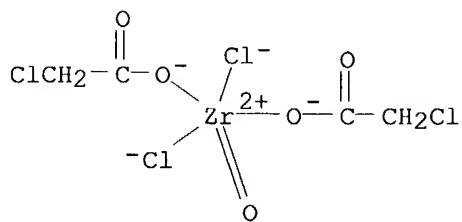


●2 H<sup>+</sup>

RN 63239-21-4 HCPLUS  
CN Zirconate(2-), dichlorobis(chloroacetato-O)oxo-, dihydrogen, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 63239-20-3  
CMF C4 H4 Cl4 O5 Zr . 2 H  
CCI CCS



●2 H<sup>+</sup>

RN 63239-23-6 HCPLUS

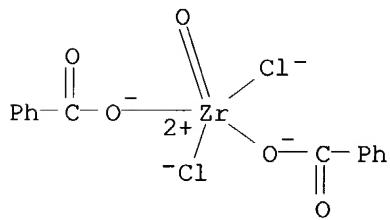
CN Zirconate(2-), bis(benzoato-O)dichlorooxo-, dihydrogen, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

CRN 63239-22-5

CMF C14 H10 Cl2 O5 Zr . 2 H

CCI CCS



●2 H<sup>+</sup>

RN 63288-62-0 HCPLUS

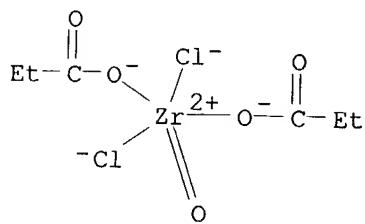
CN Zirconate(2-), dichlorooxobis(propanoato-O)-, dihydrogen, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 63288-61-9

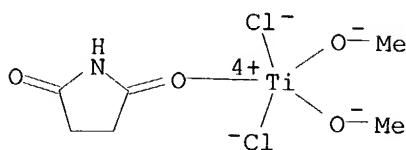
CMF C6 H10 Cl2 O5 Zr . 2 H

CCI CCS



● 2 H<sup>+</sup>

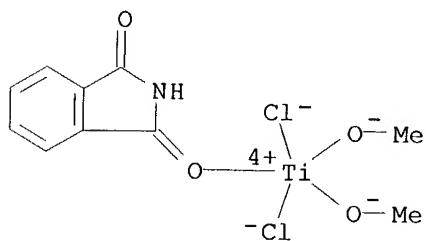
L34 ANSWER 35 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1977:132686 HCPLUS  
 DN 86:132686  
 TI Complexes of alkoxy- and dialkoxytitanium(IV) chlorides with some bidentate ligands  
 AU Paul, R. C.; Gupta, P. K.; Bindra, Kanwaljeet; Chadha, S. L.  
 CS Dep. Chem., Panjab Univ., Chandigarh, India  
 SO Indian Journal of Chemistry, Section A: Inorganic, Physical, Theoretical & Analytical (1976), 14(10), 776-7  
 CODEN: IJCADU; ISSN: 0376-4710  
 DT Journal  
 LA English  
 AB 1:1 Complexes of phthalimide and succinimide and 1:2 complexes of a,a'-dipyridyl and its dioxide and 1,10-phenanthroline with ROTiCl<sub>3</sub> (where R = Me, Et, C<sub>2</sub>H<sub>4</sub>Cl and C<sub>2</sub>H<sub>2</sub>F<sub>3</sub>) along with 1:1 complexes of phthalimide and succinimide with (MeO)<sub>2</sub>TiCl<sub>2</sub> were prepared. These complexes were characterized by anal. and IR spectral data. Ti(IV) in these complexes acquires 6-coordination by chloride bridging.  
 CC 78-7 (Inorganic Chemicals and Reactions)  
 ST titanium alkoxy imide bipyridine chloride; phthalimide titanium alkoxy chloride complex; succinimide titanium alkoxy chloride complex; phenanthroline titanium alkoxy chloride complex  
 IT 62363-33-1P 62363-35-3P 62363-37-5P 62363-39-7P 62363-41-1P  
 62363-43-3P **62363-45-5P 62425-81-4P** 62828-94-8P  
 62828-95-9P 62828-96-0P 62828-97-1P 62828-98-2P 62828-99-3P  
 62842-68-6P 62842-69-7P 62842-70-0P 62842-71-1P 62842-72-2P  
 62976-15-2P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT **62363-45-5P 62425-81-4P**  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 62363-45-5 HCPLUS  
 CN Titanium, dichlorodimethoxy(2,5-pyrrolidinedione-O)-, homopolymer (9CI)  
 (CA INDEX NAME)  
 CM 1  
 CRN 62363-44-4  
 CMF C6 H11 Cl2 N O4 Ti  
 CCI CCS



RN 62425-81-4 HCAPLUS  
 CN Titanium, dichloro(1H-isoindole-1,3(2H)-dione-O)dimethoxy-, homopolymer  
 (9CI) (CA INDEX NAME)

CM 1

CRN 62425-80-3  
 CMF C10 H11 Cl2 N O4 Ti  
 CCI CCS



L34 ANSWER 36 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1976:413203 HCAPLUS  
 DN 85:13203  
 TI On some oxozirconium(IV) compounds  
 AU Paul, R. C.; Gupta, S. K.; Parmar, S. S.; Vasisht, Sham K.  
 CS Dep. Chem., Panjab Univ., Chandigarh, India  
 SO Zeitschrift fuer Anorganische und Allgemeine Chemie (1976), 423(1), 91-6  
 CODEN: ZAACAB; ISSN: 0044-2313  
 DT Journal  
 LA English  
 AB Some new oxozirconium(IV) complexes: ZrO(An)2, ZrO(Gly)2, ZrO(HSal)2, ZrO(HPth)2, ZrO(Pic)2(HPic)2, and ZrO(Quin)2(HQuin)2 were isolated from the reactions of ZrO(OAc)2AcOH with anthranilic acid (HAn), glycine (HGly), salicylic acid (H2Sal), phthalic acid (H2Pth), picolinic acid (HPic), and 8-quinolinol (HQuin) resp. Their important ir bands and wherever possible molar conductance and mol. weight were reported.  
 CC 78-7 (Inorganic Chemicals and Reactions)  
 ST zirconyl complex; anthranilic acid zirconyl complex; glycine zirconyl complex; salicylic acid zirconyl complex; phthalic acid zirconyl complex; picolinic acid zirconyl complex; quinolinol zirconyl complex  
 IT 59596-21-3P 59596-23-5P 59596-25-7P  
 59650-44-1P 59650-45-2P 59650-54-3P 59650-71-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT 59596-21-3P 59596-23-5P 59596-25-7P  
 59650-54-3P 59650-71-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

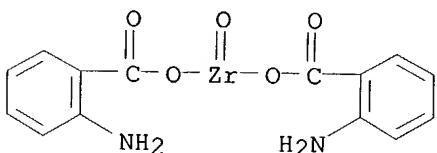
RN 59596-21-3 HCPLUS

CN Zirconium, bis(2-aminobenzoato-O)oxo-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 59596-20-2

CMF C14 H12 N2 O5 Zr



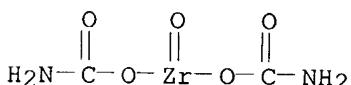
RN 59596-23-5 HCPLUS

CN Zirconium, bis(carbamato-O)oxo-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 59596-22-4

CMF C2 H4 N2 O5 Zr



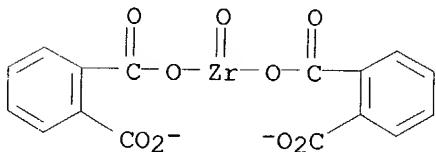
RN 59596-25-7 HCPLUS

CN Zirconate(2-), bis[1,2-benzenedicarboxylato(2-)-O]oxo-, dihydrogen, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 59596-24-6

CMF C16 H8 O9 Zr . 2 H



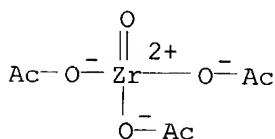
●2 H<sup>+</sup>

RN 59650-54-3 HCPLUS

CN Zirconate(1-), tris(acetato-O)oxo-, hydrogen, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 59650-53-2  
 CMF C6 H9 O7 Zr . H  
 CCI CCS

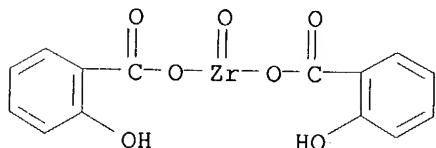


● H<sup>+</sup>

RN 59650-71-4 HCPLUS  
 CN Zirconium, bis(2-hydroxybenzoato-O1)oxo-, homopolymer (9CI) (CA INDEX NAME)

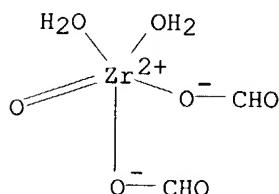
CM 1

CRN 59650-70-3  
 CMF C14 H10 O7 Zr



L34 ANSWER 37 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1976:144093 HCPLUS  
 DN 84:144093  
 TI Zirconium and oxozirconium IV formates  
 AU Paul, Ram Chand; Baidya, Om B.; Kapoor, R.  
 CS Dep. Chem., Panjab Univ., Chandigarh, India  
 SO Zeitschrift fuer Naturforschung, Teil B: Anorganische Chemie, Organische Chemie (1976), 31B(3), 300-3  
 CODEN: ZNBAD2; ISSN: 0340-5087  
 DT Journal  
 LA English  
 AB Zr(OOCH)<sub>4</sub> and ZrO(OOCH)<sub>2</sub>.2H<sub>2</sub>O were prepared by the reactions of ZrCl<sub>4</sub> and ZrOC<sub>12</sub> with anhydrous formic acid, resp. The compds. were characterized by elemental analyses, molar conductance, thermogravimetry and ir spectral data. The compds. are nonelectrolytes in PhNO<sub>2</sub> and have polymeric structures.  
 CC 78-7 (Inorganic Chemicals and Reactions)  
 ST zirconium oxo formate polymer  
 IT 59317-80-5P 59318-75-1P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT 7699-43-6 10026-11-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with formic acid)  
 IT 64-18-6, reactions

IT RL: RCT (Reactant); RACT (Reactant or reagent)  
   (with zirconium tetrachloride and dichlorooxozirconium)  
**59318-75-1P**  
 IT RL: SPN (Synthetic preparation); PREP (Preparation)  
   (preparation of)  
 RN 59318-75-1 HCAPLUS  
 CN Zirconium, diaquabis(formato-O)oxo-, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 59318-74-0  
 CMF C2 H6 O7 Zr  
 CCI CCS



L34 ANSWER 38 OF 42 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1974:132729 HCAPLUS  
 DN 80:132729  
 TI Zirconium glycoxides  
 AU Saxena, U. B.; Rai, A. K.; Mehrotra, R. C.  
 CS Chem. Lab., Univ. Rajasthan, Jaipur, India  
 SO Inorganica Chimica Acta (1973), 7(4), 681-4  
 CODEN: ICHAA3; ISSN: 0020-1693  
 DT Journal  
 LA English  
 AB Reaction between zirconium isopropoxide and various glycols in different stoichiometric ratios gave a series of alkyleneoxy diisopropoxide, bis(alkyleneoxy) as well as tris derivs. of Zr. The mol. complexities of some soluble glycoxides were determined in boiling C6H6; ir studies were also made.  
 CC 23-7 (Aliphatic Compounds)  
 Section cross-reference(s): 29  
 ST zirconium glycol isopropanol complex  
 IT Infrared spectra  
   (of zirconium glycol complexes)  
 IT Glycols, compounds  
   RL: SPN (Synthetic preparation); PREP (Preparation)  
     (zirconium complexes and salts, preparation and ir spectra of)  
 IT 28694-26-0P 52245-22-4P 52245-23-5P **52324-67-1P**  
**52324-69-3P 52359-38-3P 52359-40-7P**  
**52359-42-9P 52359-44-1P 52359-46-3P**  
 52366-25-3P 52543-98-3P 52543-99-4P 52544-00-0P 52589-02-3P  
   RL: SPN (Synthetic preparation); PREP (Preparation)  
     (preparation of)  
 IT 2171-98-4  
   RL: RCT (Reactant); RACT (Reactant or reagent)  
     (reaction of, with glycols)  
 IT **52324-67-1P 52324-69-3P 52359-38-3P**

52359-40-7P 52359-42-9P 52359-44-1P  
 52359-46-3P

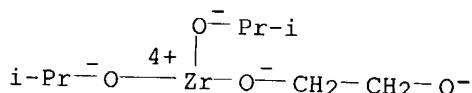
RL: SPN (**Synthetic preparation**); PREP (**Preparation**)  
 (preparation of)

RN 52324-67-1 HCPLUS

CN Zirconium, [1,2-ethanediolato(2-)-O]bis(2-propanolato)-, homopolymer  
 (9CI) (CA INDEX NAME)

CM 1

CRN 52324-66-0  
 CMF C8 H18 O4 Zr  
 CCI CCS

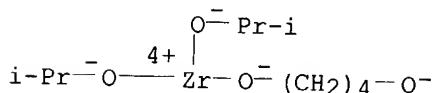


RN 52324-69-3 HCPLUS

CN Zirconium, [1,4-butanediolato(2-)-O]bis(2-propanolato)-, homopolymer (9CI)  
 (CA INDEX NAME)

CM 1

CRN 52324-68-2  
 CMF C10 H22 O4 Zr  
 CCI CCS

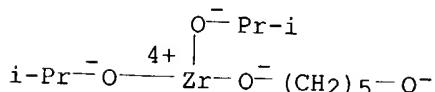


RN 52359-38-3 HCPLUS

CN Zirconium, [1,5-pentanediolato(2-)-O]bis(2-propanolato)-, homopolymer  
 (9CI) (CA INDEX NAME)

CM 1

CRN 52359-37-2  
 CMF C11 H24 O4 Zr  
 CCI CCS

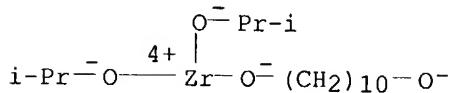


RN 52359-40-7 HCPLUS

CN Zirconium, [1,10-decanediolato(2-)-O]bis(2-propanolato)-, homopolymer  
 (9CI) (CA INDEX NAME)

CM 1

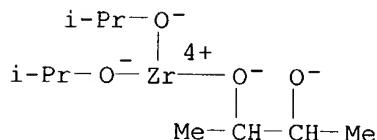
CRN 52359-39-4  
CMF C16 H34 O4 Zr  
CCI CCS



RN 52359-42-9 HCPLUS  
CN Zirconium, [2,3-butanediolato(2-)-O]bis(2-propanolato)-, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

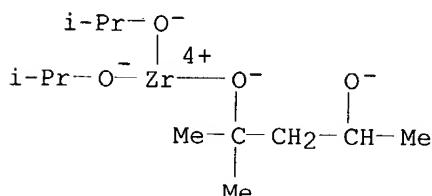
CRN 52359-41-8  
CMF C10 H22 O4 Zr  
CCI CCS



RN 52359-44-1 HCPLUS  
CN Zirconium, [2-methyl-2,4-pentanediolato(2-)-O]bis(2-propanolato)-,  
homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 52359-43-0  
CMF C12 H26 O4 Zr  
CCI CCS

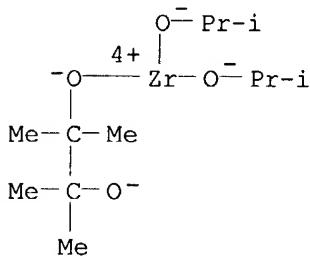


RN 52359-46-3 HCPLUS  
CN Zirconium, [2,3-dimethyl-2,3-butanediolato(2-)-O]bis(2-propanolato)-,  
homopolymer (9CI) (CA INDEX NAME)

CM 1

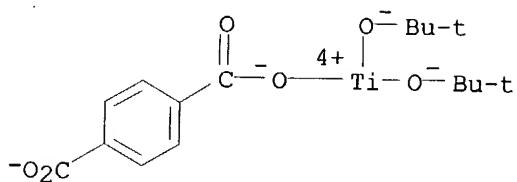
CRN 52359-45-2  
CMF C12 H26 O4 Zr

CCI CCS



L34 ANSWER 39 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1971:510005 HCPLUS  
 DN 75:110005  
 TI Syntheses and reactions of organometallics. V. Reactions of tetrabutyl titanates with terephthalic acid  
 AU Yoshino, Norio; Yoshino, Takeshi  
 CS Meguro Cent. Res. Lab., Sci. Univ. Tokyo, Tokyo, Japan  
 SO Kogyo Kagaku Zasshi (1971), 74(8), 1673-6  
 CODEN: KGKZA7; ISSN: 0368-5462  
 DT Journal  
 LA Japanese  
 AB Reaction of  $\text{Ti(OBu)}_4$ ,  $\text{Ti(OCHMeEt)}_4$ , and  $\text{Ti(OCMe}_3)_4$  with  $\text{Q(CO}_2\text{H})_2$  ( $\text{Q} = \text{p-C}_6\text{H}_4$ ) gave  $[(\text{BuO})_3\text{TiO}_2\text{CQCO}_2\text{Ti(OBu)}_2]_2\text{O}$ ,  $[(\text{EtMeCHO})_3\text{TiO}_2\text{CQCO}_2\text{Ti(OCHMeEt)}_2]_2\text{O}$ , and  $[-\text{Ti(OCMe}_3)_2\text{O}_2\text{CQCO}_2\text{O}]_n$ , resp. The 1:1 and 2:1  $\text{Ti(OCH}_2\text{CHMe}_2)_4\text{-Q(CO}_2\text{H})_2$  reactions gave  $(\text{Me}_2\text{CHCH}_2\text{O})_3\text{TiO}_2\text{CQCO}_2\text{H}$  and  $[(\text{Me}_2\text{CHCH}_2\text{O})_3\text{TiO}_2\text{C}_2\text{Q}]_2\text{O}$ , resp. The products showed 2 ir carboxyl absorptions at 1530-1570 and 1375-1385  $\text{cm}^{-1}$ .  
 CC 25 (Noncondensed Aromatic Compounds)  
 ST titanate reaction terephthalic acid; titanium terephthalates IR spectrum  
 IT Terephthalic acid, titanium complexes  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT 33679-19-5P 33707-97-0P 33707-98-1P 33707-99-2P  
 33708-00-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT 3087-39-6 3374-12-7 5593-70-4 7425-80-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with terephthalic acid)  
 IT 100-21-0, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (with tetrabutyl titanates)  
 IT 33679-19-5P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 33679-19-5 HCPLUS  
 CN Titanium, di-tert-butoxy(terephthalato)-, polymers (8CI) (CA INDEX NAME)

CM 1  
 CRN 47309-61-5  
 CMF C16 H22 O6 Ti  
 CCI CCS

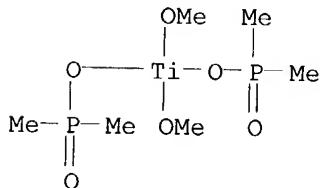


L34 ANSWER 40 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1967:478574 HCPLUS  
 DN 67:78574  
 TI Inorganic coordination polymers. IX. Titanium(IV) phosphinate polymers  
 AU Dahl, Gerd H.; Block, Burton P.  
 CS Pennsalt Chem. Corp., King of Prussia, PA, USA  
 SO Inorganic Chemistry (1967), 6(8), 1439-43  
 CODEN: INOCAJ; ISSN: 0020-1669  
 DT Journal  
 LA English  
 AB cf. CA 64: 15986h. The following titanium(IV) phosphinates have been prepared, mainly by metathesis: (i)  $Ti(OR'')_2(OPRR''O)_2$  with R, R', and R'', resp., Me, Me, and Me or Bu; Me, Ph, and Et; Ph, Ph, and Et or iso-pr; (ii)  $TiCl_2[OPPh_2O]_2$ ; (iii)  $TiO(OPRR''O)_2$  with R and R' both Me, both Ph, or one Me and one Ph; (iv)  $Ti[OPPh_2O]_4$ ; and (v)  $Ti(BB)(OPRR''O)_2$  with BB, R, and R', resp.,  $C_6H_4O_2$ , Me or Ph, and Ph;  $C_6H_4(O)COO$ , Me, and Ph;  $MeC(O^-)CH_2CH(O^-)Me$ , Ph, and Ph;  $OC_3H_6O$ , Me or Ph, and Ph; or  $PhP(O)2CH_2P(O)2Ph$ , Me, and Ph.  $TiCl_2[OPPh_2O]_2$  was prepared by the thermal decomposition of  $TiCl_4[OPPh_2OEt]_2$ . Mol. weight data show that all of the  $Ti(IV)$  phosphinates made are at least trimers and that some have d.p. >20. Their ir spectra are consistent with phosphinate bridging, and it is probable that double phosphinate bridges are present in most of the polymers. The ir data also are in accord with  $Ti(O)$  rather than  $Ti-O-Ti$  bonding in the titanyl phosphinates. Thermogravimetric analysis shows that weight loss starts at as high as  $450^\circ$  in N for some of the polymers prepared. 25 references.  
 CC 78 (Inorganic Chemicals and Reactions)  
 ST TITANIUM PHOSPHINATE POLYMERS; PHOSPHINATE TI POLYMERS; POLYMERS TI PHOSPHINATE  
 IT Spectra, infrared  
     (of titanium phosphinate polymers)  
 IT 1,3-Propanediol, titanium complexes  
 IT 2,4-Pentanediol, 2-methyl-, titanium complex  
 IT Phosphinic acid, dimethyl-, titanium complexes  
 IT Phosphinic acid, diphenyl-, ethyl ester, titanium complex  
 IT Phosphinic acid, diphenyl-, titanium complexes  
 IT Phosphinic acid, methylenebis[phenyl-, titanium complex  
 IT Phosphinic acid, methylphenyl-, titanium complexes  
 IT Pyrocatechol, titanium complexes  
 IT Salicylic acid, titanium complex  
 IT Titanium, bis(diphenylphosphinato)diethoxy-, polymers  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
     (preparation of)  
 IT Titanium, with phosphinic acid derivs.  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
     (spectra and thermal anal. of polymeric)

IT Phosphinic acid, derivs.  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (titanium complexes, spectra and thermal anal. of polymeric)  
 IT 1733-55-7P 18583-30-7P 24980-87-8P 24980-88-9P 25639-87-6P  
 27967-96-0P 30582-42-4P 30582-43-5P  
 30582-44-6P 30582-45-7P 30582-46-8P 30699-51-5P  
 30699-53-7P 30699-56-0P 30699-57-1P 30699-58-2P 30753-14-1P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT 30582-42-4P 30582-43-5P 30582-44-6P  
 30582-45-7P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 30582-42-4 HCPLUS  
 CN Titanium, bis(dimethylphosphinato)dimethoxy-, polymers (8CI) (CA INDEX NAME)

CM 1

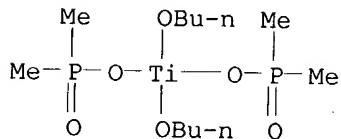
CRN 45154-24-3  
 CMF C6 H18 O6 P2 Ti



RN 30582-43-5 HCPLUS  
 CN Titanium, dibutoxybis(dimethylphosphinato)-, polymers (8CI) (CA INDEX NAME)

CM 1

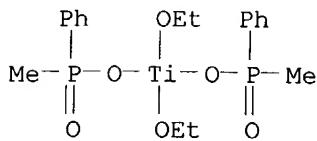
CRN 3283-13-4  
 CMF C12 H30 O6 P2 Ti



RN 30582-44-6 HCPLUS  
 CN Titanium, diethoxybis(methylphenylphosphinato)-, polymers (8CI) (CA INDEX NAME)

CM 1

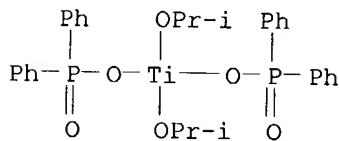
CRN 47526-07-8  
 CMF C18 H26 O6 P2 Ti



RN 30582-45-7 HCPLUS  
CN Titanium, bis(diphenylphosphinato)diisopropoxy-, polymers (8CI) (CA INDEX NAME)

CM 1

CRN 47808-91-3  
CMF C30 H34 O6 P2 Ti

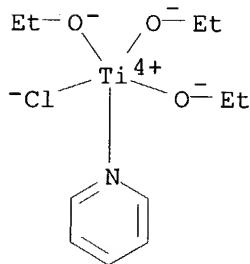


L34 ANSWER 41 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
AN 1967:101224 HCPLUS  
DN 66:101224  
TI Some reactions of alkoxy and chloroalkoxytitanium(IV) compounds with tertiary amines  
AU Anagnostopoulos, Augoustinos K.  
CS Natl. Tech. Univ., Athens, Greece  
SO Chimika Chronika (1967), 32(1), 1-4  
CODEN: CCRNAQ  
DT Journal  
LA English  
AB The reaction of  $\text{TiCl}_3\text{OEt}$  (I),  $\text{TiCl}_2(\text{OEt})_2$  (II), and  $\text{TiCl}(\text{OEt})_3$  (III) with pyridine and  $\text{Me}_3\text{N}$  was studied. Thus, when I, II, and III and the amine were mixed in benzene, the complex precipitated as a yellow solid. The obtained complexes of I or II with the amine showed a stoichiometric ratio 1:2 whereas that of III had a molar ratio 1:1. No adduct was obtained between  $\text{Ti}(\text{OEt})_4$  and the organic ligands.  
CC 78 (Inorganic Chemicals and Reactions)  
ST AMINES TI CHLOROALKOXY COMPDS; CHLOROALKOXY TI AMINES COMPDS; TITANIUM CHLOROALKOXY AMINES  
IT Pyridine, titanium complexes  
Trimethylamine, titanium complexes  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
IT 17070-25-6P 17142-10-8P 17142-12-0P 17142-13-1P 32056-71-6P  
32056-72-7P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
IT 3087-36-3P 3112-67-2P 3582-00-1P 3712-48-9P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, and reaction with tertiary amines)  
IT 32056-71-6P 32056-72-7P  
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)  
 RN 32056-71-6 HCPLUS  
 CN Titanium, chlorotriethoxy(pyridine)-, polymers (8CI) (CA INDEX NAME)

CM 1

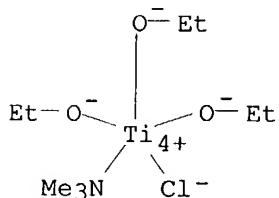
CRN 46753-64-4  
 CMF C11 H20 Cl N O3 Ti  
 CCI CCS



RN 32056-72-7 HCPLUS  
 CN Titanium, chlorotriethoxy(trimethylamine)-, polymers (8CI) (CA INDEX NAME)

CM 1

CRN 45152-32-7  
 CMF C9 H24 Cl N O3 Ti  
 CCI CCS



L34 ANSWER 42 OF 42 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1967:65910 HCPLUS  
 DN 66:65910  
 TI Poly(diorganophosphonyltitanoxane) **oligomers**  
 AU Andrianov, K. A.; Kuznetsova, I. K.; Bebchuk, T. S.; Kolchina, A. G.; Shaipova, I.  
 CS Inst. Element Org. Compd., Moscow, USSR  
 SO Izvestiya Akademii Nauk SSSR, Neorganicheskie Materialy (1966), 2(11), 1913-20  
 CODEN: IVNMAW; ISSN: 0002-337X  
 DT Journal  
 LA Russian  
 AB [RR1P(O)]2Ti(OBu)2 [R = R1 = Me (I), R = Me, R1 = PhO (III), R = R1 = Ph (IV), R = R1 = PhO (V)] were prepared by a known method (CA 61, 3143b) using

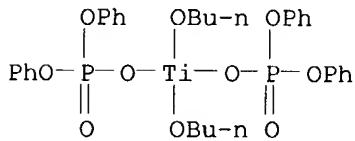
Ti(OBu)<sub>4</sub> and the corresponding phosphinic acid at 130–45°. By hydrolytic polycondensation of these compds. (CA 64, 3588a) the following 5 poly(diorganophosphonyltitanoxane) **oligomers** (VI–X) were prepared (monomer and mol. weight given): I, 3600; II, 6705; III, 4200; IV, 4400; V, 4000. Poly(butyl titanate) (XI), d.p. 12, containing 36.45% TiO<sub>2</sub>, was obtained by the method of Suvorov and Spasskii, (CA 53, 20900e). A mixture of 7.95 g. XI and 6.61 g. dimethylphosphinic acid was heated at 150°/15 mm. to give 9.74 g. VI after the evolved BuOH ceased to distil. The poly(diorganophosphonyltitanoxane) **oligomers** (**oligomer** and mol. weight given) obtained by this method were: VI, 3000; VIII, 5100; IX, 5700; X, 6930. By heating VI–X to 450° their organic groups oxidized. Ti–O–P bonds broke at higher temperature (.apprx.800°) but the main chain of the polymers remained unchanged.

CC 35 (Synthetic High Polymers)  
 ST POLYPHOSPHONYLTITANOXANES; TITANOXANES POLYMERS; PHOSPHONYLTITANOXANES POLYMERS  
 IT Titanoxanes  
 RL: USES (Uses)  
     (with phosphonyl or related phosphorus-containing groups,  
     **oligomeric**)  
 IT Phosphinic acid, diphenyl-, titanium complex  
 RL: PREP (Preparation)  
     (polymers)  
 IT Phosphinic acid, methylphenyl-, titanium complexes, polymers  
 Phosphonic acid, methyl-, monomethyl ester, titanium complexes polymers  
 Phosphonic acid, methyl-, monophenyl ester, titanium complexes polymers  
 Phosphoric acid, diphenyl ester, titanium complexes, polymers  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
     (preparation of)  
 IT 31156-06-6P 31157-04-7P 31157-05-8P  
 31157-06-9P 31157-07-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
     (preparation of)  
 IT 31156-06-6P 31157-04-7P 31157-05-8P  
 31157-06-9P 31157-07-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
     (preparation of)  
 RN 31156-06-6 HCPLUS  
 CN Titanium, dibutoxybis(dihydrogen phosphato)-, tetraphenyl ester, polymers (8CI) (CA INDEX NAME)

CM 1

CRN 13135-29-0

CMF C32 H38 O10 P2 Ti

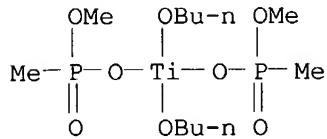


RN 31157-04-7 HCPLUS

CN Titanium, dibutoxybis(hydrogen methylphosphonato)-, dimethyl ester, polymers (8CI) (CA INDEX NAME)

CM 1

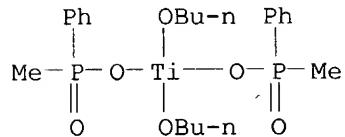
CRN 45271-61-2  
CMF C12 H30 O8 P2 Ti



RN 31157-05-8 HCAPLUS  
CN Titanium, dibutoxybis(methylphenylphosphinato)-, polymers (8CI) (CA INDEX NAME)

CM 1

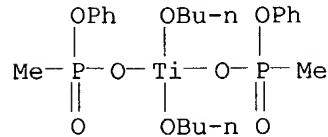
CRN 13091-11-7  
CMF C22 H34 O6 P2 Ti



RN 31157-06-9 HCAPLUS  
CN Titanium, dibutoxybis(hydrogen methylphosphonato)-, diphenyl ester, polymers (8CI) (CA INDEX NAME)

CM 1

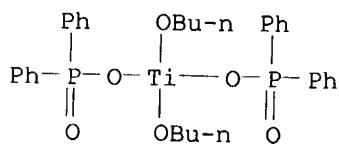
CRN 13091-12-8  
CMF C22 H34 O8 P2 Ti



RN 31157-07-0 HCAPLUS  
CN Titanium, dibutoxybis(diphenylphosphinato)-, polymers (8CI) (CA INDEX NAME)

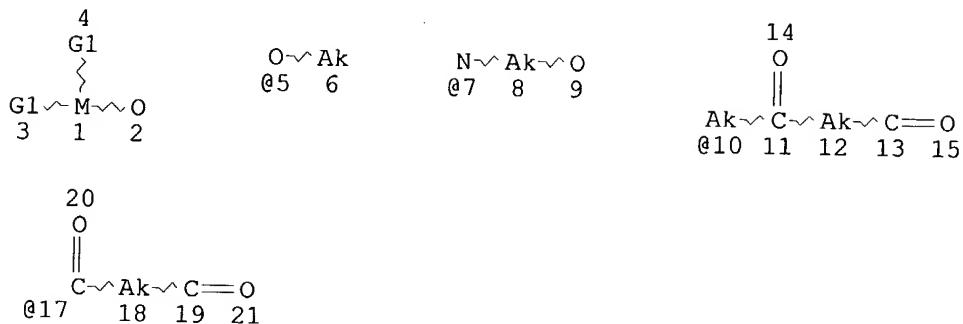
CM 1

CRN 1456-96-8  
CMF C32 H38 O6 P2 Ti



=> => d que 138

L5 SCR 2043  
L7 SCR 1918  
L9 STR



VAR G1=5/7/10/17

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 20

STEREO ATTRIBUTES: NONE

L12 675 SEA FILE=REGISTRY SSS FUL L9 AND L5 AND L7  
L13 232 SEA FILE=REGISTRY ABB=ON L12 AND 1-2/TI,ZR  
L14 0 SEA FILE=REGISTRY ABB=ON L12 AND 1-2/HF  
L15 232 SEA FILE=REGISTRY ABB=ON L13 OR L14  
L36 10 SEA FILE=REGISTRY ABB=ON L12 AND 3-20/TI,ZR,HF  
L37 10 SEA FILE=REGISTRY ABB=ON (L15 OR L36) NOT L15  
L38 2 SEA FILE=HCAPLUS ABB=ON L37

*3 or more Ti, Zr or Hf*

=> d 138 bib abs hitstr 1-2

L38 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1997:273649 HCAPLUS  
DN 126:252530  
TI Heat-resistant printing ink compositions with good discoloration prevention and viscosity stability  
IN Inoe, Takahiko; Sakuma, Kazuo  
PA Sakata Inks, Japan  
SO Jpn. Kokai Tokyo Koho, 7 pp.  
CODEN: JKXXAF  
DT Patent

LA Japanese  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 09031385	A2	19970204	JP 1995-183039	19950719
PRAI JP 1995-183039		19950719		
OS MARPAT 126:252530				
AB Title compns. contain pigments, OH-containing resins, organic solvents, and $\geq 1$ Ti(OR1)(OR2)(OR3)(OR4) and (R5O)(R6O)(R7O)Ti <sub>1..n</sub> $\cdot$ OTi <sub>n</sub> (OR2n+4)(OR2n+5)(OR2n+6) (R's = C <sub>3-18</sub> alkyl, acyl; $\geq (2n + 2)/4$ of R's are C <sub>17</sub> H <sub>35</sub> CO; n = 1-10) as crosslinking agents. Thus, an ink comprising triisopropoxytitanium monostearate 0.1, Tipaque R 900 (TiO <sub>2</sub> ) 30, Rheomide S 2600 (polyamide) 16, HIG 1/2 4, and a 60:30:10 mixture of PhNe/Me <sub>2</sub> CHOH/EtOAc 49.9 parts was applied on a polypropylene film to show transfer temperature 100-120°, good viscosity stability, and no yellowing after 7 days at 40°.				

IT 188626-80-4P 188651-99-2P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or  
engineered material use); PREP (Preparation); USES (Uses)  
(heat-resistant and storage-stable cellulose-polyamide printing ink  
compns. containing titanium stearates crosslinking agents)

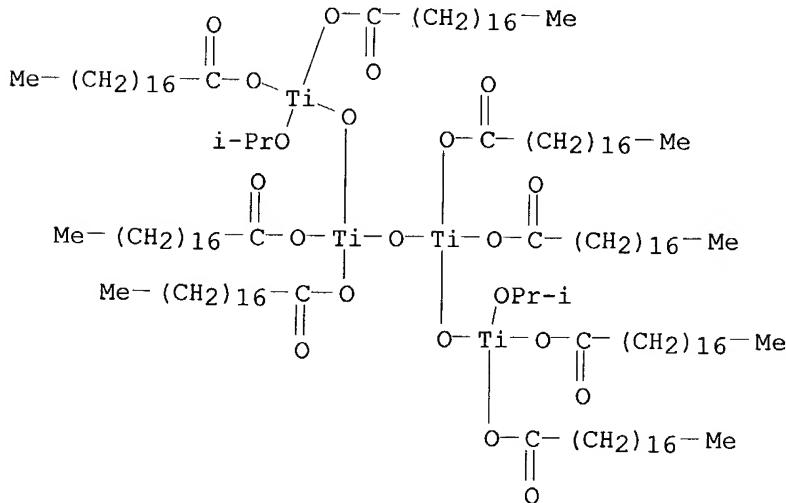
RN 188626-80-4 HCPLUS

CN Cellulose, nitrate, polymer with octakis(octadecanoato- $\kappa$ O)tri- $\mu$ -  
oxobis(2-propanolato)tetratitanium and Rheomide S 2600 (9CI) (CA INDEX  
NAME)

CM 1

CRN 188598-78-9

CMF C150 H294 O21 Ti4



CM 2

CRN 188494-81-7

CMF Unspecified

CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 3

CRN 9004-70-0

CMF H N O3 . x Unspecified

CM 4

CRN 9004-34-6

CMF Unspecified

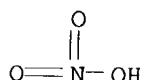
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 7697-37-2

CMF H N O3



RN 188651-99-2 HCPLUS

CN Cellulose, nitrate, polymer with Rheomide S 2600 and  
tetrakis(octadecanoato-O)tri- $\mu$ -oxohexakis(2-propanolato)tetratitanium  
(9CI) (CA INDEX NAME)

CM 1

CRN 188494-81-7

CMF Unspecified

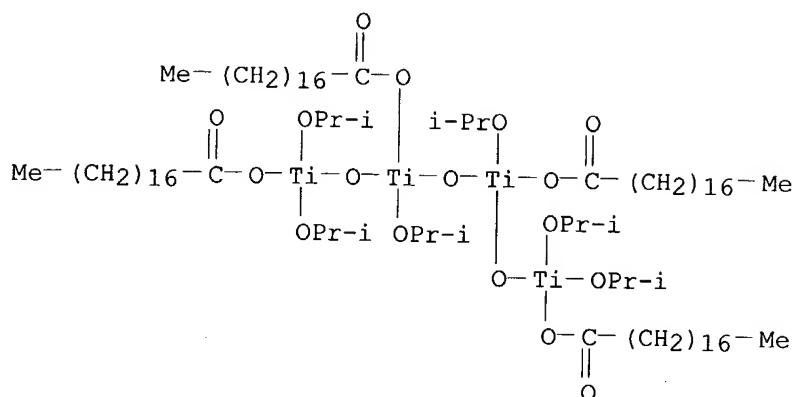
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 114068-94-9

CMF C90 H182 O17 Ti4



CM 3

CRN 9004-70-0

CMF H N O3 . x Unspecified

CM 4

CRN 9004-34-6

CMF Unspecified

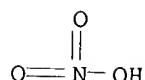
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 7697-37-2

CMF H N O3



L38 ANSWER 2 OF 2 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1990:601373 HCPLUS

DN 113:201373

TI Electrophotographic toners using crosslinked polymer as binder

IN Kamitaki, Takaaki

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 02106762	A2	19900418	JP 1988-259347	19881017
PRAI JP 1988-259347		19881017		
AB The title toners comprise a vinyl type copolymer having acid value				

$\geq 5$ , which is crosslinked with a monomer or polymer RO[TiO(OR<sub>2</sub>)(OR<sub>3</sub>)]<sub>n</sub>R<sub>1</sub> (I; R, R<sub>1</sub> = C<sub>1-10</sub> alkyl; R<sub>2</sub>, R<sub>3</sub> = C<sub>1-10</sub> alkyl, COR<sub>4</sub>; R<sub>4</sub> = C<sub>1-30</sub> alkyl, n = 1-15), or its mixture, and a coloring agent. The toners show good fixability, antioffset properties, flowability and provide clear color images without fog. Thus, a toner containing Bu acrylate-maleic acid-styrene copolymer, I (R = R<sub>1</sub> = R<sub>2</sub> = R<sub>3</sub> = iso-Pr, n = 5), C.I. Pigment Yellow 17 was mixed with a ferrite carrier to give a developer.

IT 130056-03-0 130056-04-1 130058-89-8  
 130085-54-0 130085-55-1 130085-56-2  
 130262-56-5 130280-99-8

RL: USES (Uses)  
 (binder, electrophotog. color toner containing)

RN 130056-03-0 HCAPLUS

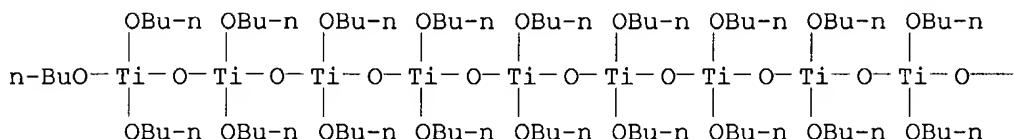
CN Titanium, docosabutoxynona- $\mu$ -oxodeca-, polymer with (2Z)-2-butenedioic acid, butyl 2-propenoate, diethenylbenzene and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

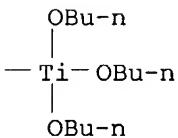
CRN 16789-17-6

CMF C88 H198 O31 Ti10

#### PAGE 1-A



#### PAGE 1-B

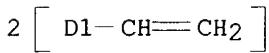


CM 2

CRN 1321-74-0

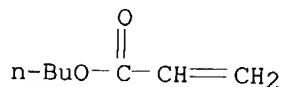
CMF C10 H10

CCI IDS



CM 3

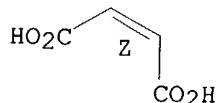
CRN 141-32-2  
CMF C7 H12 O2



CM 4

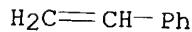
CRN 110-16-7  
CMF C4 H4 O4

Double bond geometry as shown.



CM 5

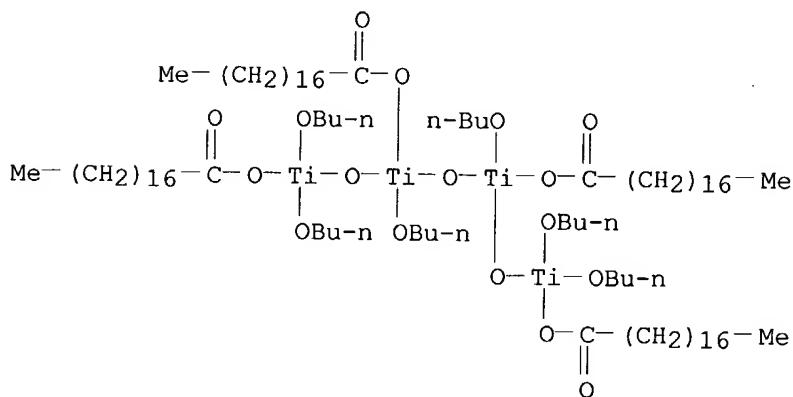
CRN 100-42-5  
CMF C8 H8



RN 130056-04-1 HCAPLUS  
CN Titanium, hexabutoxytetrakis(octadecanoato-O)tri- $\mu$ -oxotetra-, polymer with (2Z)-2-butenedioic acid, butyl 2-propenoate, diethenylbenzene and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 13052-05-6  
CMF C96 H194 O17 Ti4



CM 2

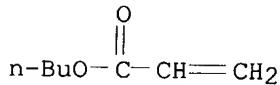
CRN 1321-74-0  
CMF C10 H10  
CCI IDS



2 [ D1-CH=CH<sub>2</sub> ]

CM 3

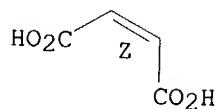
CRN 141-32-2  
CMF C7 H12 O2



CM 4

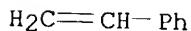
CRN 110-16-7  
CMF C4 H4 O4

Double bond geometry as shown.



CM 5

CRN 100-42-5  
CMF C8 H8

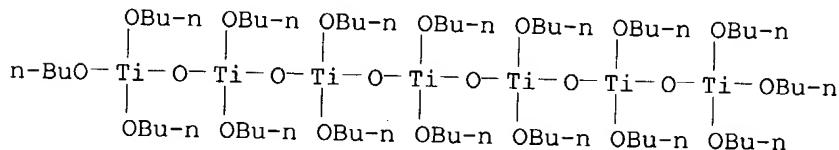


RN 130058-89-8 HCPLUS

CN Titanium, hexadecabutoxyhexa- $\mu$ -oxohepta-, polymer with  
(2Z)-2-butenedioic acid, butyl 2-propenoate and ethenylbenzene (9CI) (CA  
INDEX NAME)

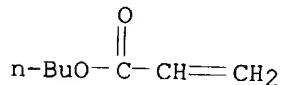
CM 1

CRN 7441-93-2  
CMF C64 H144 O22 Ti7



CM 2

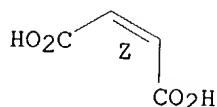
CRN 141-32-2  
CMF C7 H12 O2



CM 3

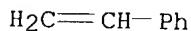
CRN 110-16-7  
CMF C4 H4 O4

Double bond geometry as shown.



CM 4

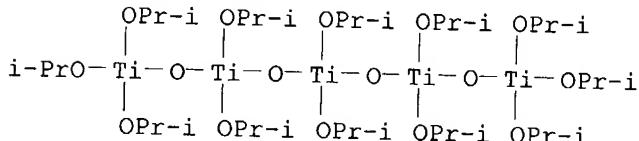
CRN 100-42-5  
CMF C8 H8



RN 130085-54-0 HCPLUS  
CN Titanium, tetra- $\mu$ -oxododecakis(2-propanolato)penta-, polymer with  
(2Z)-2-butenedioic acid, butyl 2-propenoate and ethenylbenzene (9CI) (CA  
INDEX NAME)

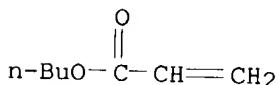
CM 1

CRN 61224-30-4  
CMF C36 H84 O16 Ti5



CM 2

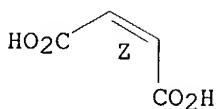
CRN 141-32-2  
CMF C7 H12 O2



CM 3

CRN 110-16-7  
CMF C4 H4 O4

Double bond geometry as shown.



CM 4

CRN 100-42-5  
CMF C<sub>8</sub> H<sub>8</sub>

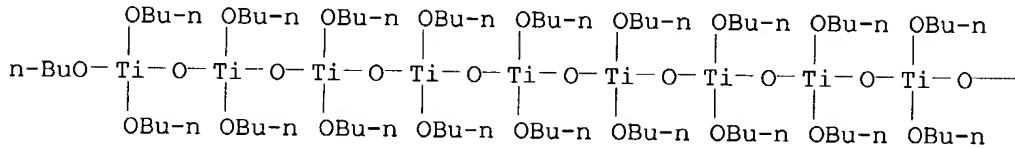
H<sub>2</sub>C=CH-Ph

RN 130085-55-1 HCPLUS  
CN Titanium, docosabutoxynona-μ-oxodeca-, polymer with (2Z)-2-butenedioic acid, butyl 2-propenoate and ethenylbenzene (9CI) (CA INDEX NAME)

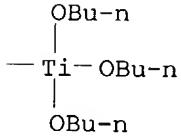
CM 1

CRN 16789-17-6  
CMF C<sub>88</sub> H<sub>198</sub> O<sub>31</sub> Ti<sub>10</sub>

PAGE 1-A

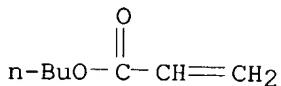


PAGE 1-B



CM 2

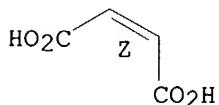
CRN 141-32-2  
CMF C<sub>7</sub> H<sub>12</sub> O<sub>2</sub>



CM 3

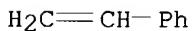
CRN 110-16-7  
CMF C4 H4 O4

Double bond geometry as shown.



CM 4

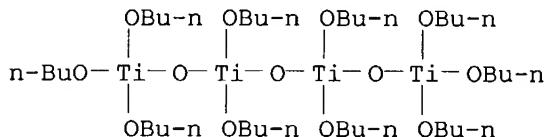
CRN 100-42-5  
CMF C8 H8



RN 130085-56-2 HCPLUS  
CN Titanium, decabutoxytri- $\mu$ -oxotetra-, polymer with (2Z)-2-butenedioic acid, butyl 2-propenoate and ethenylbenzene (9CI) (CA INDEX NAME)

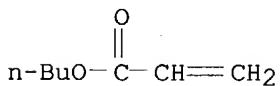
CM 1

CRN 7393-48-8  
CMF C40 H90 O13 Ti4



CM 2

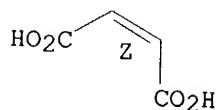
CRN 141-32-2  
CMF C7 H12 O2



CM 3

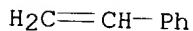
CRN 110-16-7  
CMF C4 H4 O4

Double bond geometry as shown.



CM 4

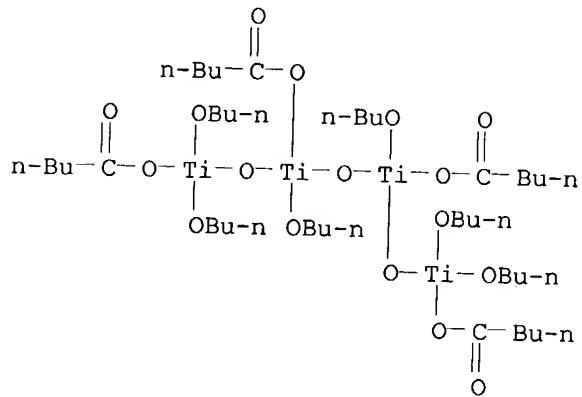
CRN 100-42-5  
CMF C8 H8



RN 130262-56-5 HCPLUS  
CN Titanium, hexabutoxytri- $\mu$ -oxotetrakis(pentanoato-O)tetra-, polymer with (2Z)-2-butenedioic acid, butyl 2-propenoate, diethenylbenzene and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 130262-55-4  
CMF C44 H90 O17 Ti4



CM 2

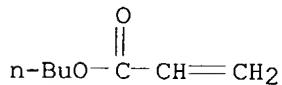
CRN 1321-74-0  
CMF C10 H10  
CCI IDS



2 [ D1 - CH=CH<sub>2</sub> ]

CM 3

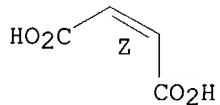
CRN 141-32-2  
CMF C<sub>7</sub> H<sub>12</sub> O<sub>2</sub>



CM 4

CRN 110-16-7  
CMF C<sub>4</sub> H<sub>8</sub> O<sub>4</sub>

Double bond geometry as shown.



CM 5

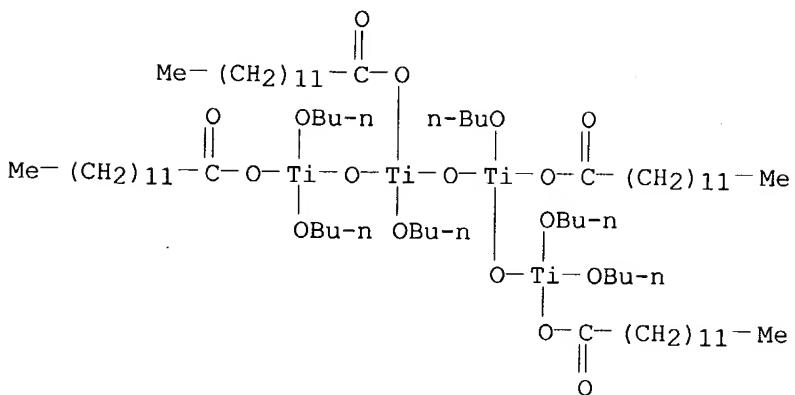
CRN 100-42-5  
CMF C<sub>8</sub> H<sub>8</sub>

H<sub>2</sub>C=CH-Ph

RN 130280-99-8 HCPLUS  
CN Titanium, hexabutoxytri- $\mu$ -oxotetrakis(tridecanoato-O)tetra-, polymer with (2Z)-2-butenedioic acid, butyl 2-propenoate, diethenylbenzene and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 130280-98-7  
CMF C<sub>76</sub> H<sub>154</sub> O<sub>17</sub> Ti<sub>4</sub>



CM 2

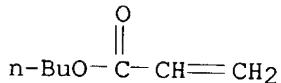
CRN 1321-74-0  
CMF C10 H10  
CCI IDS



2 [ D1- CH=CH<sub>2</sub> ]

CM 3

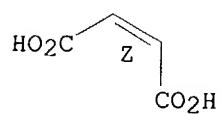
CRN 141-32-2  
CMF C7 H12 O2



CM 4

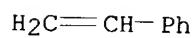
CRN 110-16-7  
CMF C4 H4 O4

Double bond geometry as shown.



CM 5

CRN 100-42-5  
CMF C<sub>8</sub> H<sub>8</sub>



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